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FILE LAST UPDATED: 27 Oct 2008  (20081027/ED)

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reclassification data for the second quarter of 2008.

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

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L82  ANSWER 1 OF 74  HCAPLUS  COPYRIGHT 2008 ACS on STN
AN   2007:41410  HCAPLUS  Full-text
DN   146:145947
TI   Novel electrode active material for a secondary
     electrochemical cell
IN   Barker, Jeremy; Burns, Paul; Bryan, Aiden; Grover, Richard
PA   UK
SO   U.S. Pat. Appl. Publ., 17pp., Cont.-in-part of U.S. Ser. No. 870,135.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 5
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   US 20070009800       A1    20070111    US 2006-531824         20060914 <--
     US 6387568           B1    20020514    US 2000-559861         20000427 <--
     US 20030027049       A1    20030206    US 2001-14822          20011026 <--
     US 6777132           B2    20040817
     US 20040265695       A1    20041230    US 2004-870135         20040616 <--
     US 7214448           B2    20070508
     WO 2008033672        A2    20080320    WO 2007-US77173        20070830 <--
     WO 2008033672        A3    20081002
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI,
             GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG,
             KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
             MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
             PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN,
             TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRAI US 2000-559861 A2 20000427 <--
US 2001-14822 A3 20011026 <--
US 2004-870135 A2 20040616
US 2006-531824 A 20060914

AB The invention provides a novel polyanion-based electrode active material for use in a secondary or rechargeable electrochem. cell having a first electrode, a second electrode and an electrolyte.

INCL 429231900; 429231950; 429221000; 429231500; 429224000; 429220000; 429225000; 429223000; 429217000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49

ST electrode active material secondary battery

IT Battery cathodes
Secondary batteries
(electrode active material for secondary electrochem. cell)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(electrode active material for secondary electrochem. cell)

IT 24937-79-9, Polyvinylidene fluoride
RL: MOA (Modifier or additive use); USES (Uses)
(electrode active material for secondary electrochem. cell)

IT 918961-43-0P, Iron lithium fluoride phosphate (FeLi2F1.3(PO4)0.9) 918961-44-1P, Sodium vanadium hydroxide phosphate (NaV(OH)1.3(PO4)0.9) 918961-45-2P 918961-46-3P, Sodium vanadium chloride phosphate (NaVCl1.6(PO4)0.8) 918961-47-4P 918961-48-5P, Iron lithium fluoride silicate (FeLi2F1.2(SiO4)0.9)
918961-49-6P, Lithium vanadium fluoride phosphate (LiVF1.3(PO4)0.9)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(electrode active material for secondary electrochem. cell)

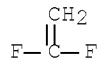
IT 24937-79-9, Polyvinylidene fluoride
RL: MOA (Modifier or additive use); USES (Uses)
(electrode active material for secondary electrochem. cell)

RN 24937-79-9 HCAPLUS

CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 2 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:1063720 HCAPLUS Full-text

DN 142:339022
TI Lithium manganese fluoride oxide positive electrode material for lithium ion secondary battery
IN Chen, Zhaoyong
PA Chengdu Shudu Nanometer Materials Technologies Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1476117	A	20040218	CN 2002-133596	20020812 <--
PRAI	CN 2002-133596		20020812 <--		

AB The material is Li1+xMzMn2-zO4-yFy, where x= 0-0.3, yr=0-0.05, z = 0-0.05, and M = Fe, Co, Ni, Cr, Al, Tl, or Mg, and is prepared with MnO2, MnCO3, Mn3O4, LiOH, Li2CO3, LiNO3, and LiF as raw materials and absolute ethanol, methanol, cyclohexane, or polyethylene glycol as dispersing agent by wet grinding for 6-20 h and baking at 650-800 °C for 10-40 h.

IC ICM H01M0004-48
ICS H01M0004-58; C01D0015-00
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 57
ST metal doped lithium manganese fluoride oxide electrode material; lithium secondary battery electrode wet grinding heating
IT Battery electrodes
Grinding (size reduction)
Heat treatment
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT Secondary batteries
(lithium; lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 7791-03-9, Lithium perchlorate
RL: DEV (Device component use); USES (Uses)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT 12057-17-9P, Lithium manganese oxide (LiMn2O4) 848773-12-6P, Iron lithium manganese fluoride oxide (Fe0-0.05Li1-1.3Mn1.95-2F0-0.05O3.95-4) 848773-13-7P, Cobalt lithium manganese fluoride oxide (Co0-0.05Li1-1.3Mn1.95-2F0-0.05O3.95-4) 848773-14-8P 848773-15-9P 848773-16-0P, Lithium manganese nickel fluoride oxide (Li1-1.3Mn1.95-2Ni0-0.05F0-0.05O3.95-4) 848773-17-1P 848773-18-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 110-82-7, Cyclohexane, uses 25322-68-3, Polyethylene glycol
RL: NUU (Other use, unclassified); USES (Uses)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)
IT 554-13-2, Lithium carbonate 598-62-9, Manganese carbonate (MnCO3) 1310-65-2, Lithium hydroxide 1313-13-9, Manganese oxide (MnO2), reactions 1317-35-7, Manganese oxide (Mn3O4) 7789-24-4,

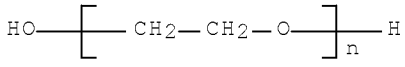
Lithium fluoride, reactions 7790-69-4, Lithium nitrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)

IT 65324-39-2, Celgard 2400
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(separator; lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)

IT 25322-68-3, Polyethylene glycol
RL: NUU (Other use, unclassified); USES (Uses)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)

RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(lithium manganese fluoride oxide pos. electrode material for lithium ion secondary battery)

RN 7789-24-4 HCAPLUS

CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 3 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:923330 HCAPLUS Full-text

DN 142:138234

TI Lithium polymer cell

IN Han, Seung U.; Kim, Sun Sik; Kim, Yeong Jae; Lee, Eun Suk; Ra, Byeong Ju

PA Saehan Enertech, Inc., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7

DT Patent

LA Korean

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2002007452	A	20020129	KR 2000-40234	20000713 <--
PRAI KR 2000-40234		20000713 <--		

AB A lithium polymer cell is provided to increase voltage stability of the cell upon overcharged/overdischarged states and storage at a high temperature and assure stability of the cell by inhibiting increase of cell temperature, thereby intercepting addnl. side reaction. The lithium polymer cell has a cathode made of carbon capable of absorbing and releasing lithium ions, an anode of lithium compound oxides, and an electrolyte comprising P(PDF-HFP) copolymer, ceramic filler and electrolytic solvent, in which at least one of the cathode and anode includes 0.1 to 10 wt% of micro mica containing fluoride element. The micro mica containing fluor element contains at least 4 elements

including F of Si, Mg, Al, K, Fe, Na and F and the fluoride content is 2.5 to 20 wt%. The size of the micro mica is 0.01 to 20 micro meter.

IC ICM H01M0010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49

ST lithium polymer cell oxide anode carbon cathode polymer electrolyte; secondary lithium battery electrode fluoropolymer fluoride micro mica filler

IT Fillers
(ceramic; lithium polymer cell)

IT Mica-group minerals, uses
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(fluoride- containing; lithium polymer cell)

IT Fluoropolymers, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(hexafluoropropene-containing; lithium polymer cell)

IT Battery anodes
Battery cathodes
Polymer electrolytes
(lithium polymer cell)

IT Secondary batteries
(lithium; lithium polymer cell)

IT Battery electrolytes
(solvent; lithium polymer cell)

IT 7439-93-2D, Lithium, oxides containing
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(anode; lithium polymer cell)

IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(cathode; lithium polymer cell)

IT 7681-49-4, Sodium fluoride, uses
7783-40-6, Magnesium fluoride 7784-18-1, Aluminum fluoride 11113-65-8, Iron fluoride 39384-00-4, Silicon fluoride
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(in micro- mica; lithium polymer cell)

IT 7789-23-3, Potassium fluoride
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(lithium polymer cell)

IT 7681-49-4, Sodium fluoride, uses
7783-40-6, Magnesium fluoride
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(in micro- mica; lithium polymer cell)

RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

F—Na

RN 7783-40-6 HCAPLUS
CN Magnesium fluoride (MgF2) (CA INDEX NAME)

F—Mg—F

L82 ANSWER 4 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:802385 HCAPLUS Full-text
DN 141:298755
TI Ionically conductive membranes for protection of active metal anodes and battery cells
IN Visco, Steven J.; Nimon, Yevgeniy S.; Katz, Bruce D.
PA Polyplus Battery Company, USA
SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 731,771.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040191617	A1	20040930	US 2004-772228	20040203 <--
	US 7390591	B2	20080624		
	US 20040126653	A1	20040701	US 2003-686189	20031014 <--
	US 7282296	B2	20071016		
	US 20040142244	A1	20040722	US 2003-731771	20031205 <--
	US 7282302	B2	20071016		
	WO 2005038962	A2	20050428	WO 2004-US33372	20041008 <--
	WO 2005038962	A3	20051229		
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 20050100793	A1	20050512	US 2004-986441	20041110 <--
	US 20080057386	A1	20080306	US 2007-824574	20070629 <--
PRAI	US 2002-418899P	P	20021015	<--	
	US 2003-511710P	P	20031014		
	US 2003-686189	A2	20031014		
	US 2003-518948P	P	20031110		
	US 2003-731771	A2	20031205		
	US 2004-772228	A	20040203		

AB Disclosed are ionically conductive membranes for protection of active metal anodes and methods for their fabrication. The membranes may be incorporated in active metal anode structures and battery cells. In accordance with the invention, the membrane has the desired properties of high overall ionic conductivity and chemical stability towards the anode, the cathode and ambient conditions encountered in battery manufacturing The membrane is capable of protecting an active metal anode from deleterious reaction with other battery components or ambient conditions while providing a high level of ionic conductivity to facilitate manufacture and/or enhance performance of a battery cell in which the membrane is incorporated.

IC ICM H01M0002-16
ICS H01M0010-36

INCL 429137000; 429246000; 429304000; 429320000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST battery anode ionically conductive membrane
IT Battery anodes
Ceramics
Gelation agents
Glass ceramics
Ionic liquids
Primary batteries
Secondary batteries
(ionically conductive membranes for protection of active metal anodes and battery cells)
IT Esters, uses
Ethers, uses
Fluoropolymers, uses
Halides
Metallic glasses
Nitrides
Phosphonium compounds
Polyoxyalkylenes, uses
Polysulfides
RL: DEV (Device component use); USES (Uses)
(ionically conductive membranes for protection of active metal anodes and battery cells)
IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(oxynitride, phosphorus; ionically conductive membranes for protection of active metal anodes and battery cells)
IT Group VA element compounds
RL: DEV (Device component use); USES (Uses)
(phosphides; ionically conductive membranes for protection of active metal anodes and battery cells)
IT Oxynitrides
RL: DEV (Device component use); USES (Uses)
(phosphorus, glass; ionically conductive membranes for protection of active metal anodes and battery cells)
IT Primary batteries
(solid-state; ionically conductive membranes for protection of active metal anodes and battery cells)
IT Quaternary ammonium compounds, uses
RL: DEV (Device component use); USES (Uses)
(tetraalkyl; ionically conductive membranes for protection of active metal anodes and battery cells)
IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(ionically conductive membranes for protection of active metal anodes and battery cells)
IT 1308-80-1, Copper nitride cu3n
RL: TEM (Technical or engineered material use); USES (Uses)
(coating; ionically conductive membranes for protection of active metal anodes and battery cells)
IT 1308-87-8, Dysprosium oxide (Dy2O3) 1308-96-9, Europium oxide (Eu2O3)
1310-53-8, Germanium dioxide, uses 1313-97-9, Neodymium oxide (Nd2O3)
1314-23-4, Zirconia, uses 1314-37-0, Ytterbium oxide (Yb2O3)
1314-56-3, Phosphorus oxide (P2O5), uses 1344-28-1, Alumina, uses
7631-86-9, Silica, uses 12024-21-4, Gallium oxide (Ga2O3) 12036-41-8,
Terbium oxide (Tb2O3) 12036-44-1, Thulium oxide (Tm2O3) 12055-62-8,
Holmium oxide (Ho2O3) 12057-24-8, Lithium oxide (Li2O), uses
12060-58-1, Samarium oxide (Sm2O3) 12061-16-4, Erbium oxide (Er2O3)

12064-62-9, Gadolinium oxide (Gd2O3) 13463-67-7, Titania, uses
RL: DEV (Device component use); USES (Uses)
(glass-ceramic; ionically conductive membranes for protection of active metal anodes and battery cells)

IT 10377-52-3 12024-22-5, Gallium sulfide ga2s3 12025-34-2, Germanium sulfide ges2 12136-58-2, Lithium sulfide (Li2S) 13759-10-9, Silicon sulfide sis2
RL: DEV (Device component use); USES (Uses)
(glass; ionically conductive membranes for protection of active metal anodes and battery cells)

IT 79-20-9, Methyl acetate 96-47-9, 2-Methyltetrahydrofuran 105-58-8, Diethyl carbonate 107-31-3, Methyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 463-79-6D, Carbonic acid, organic esters 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 646-06-0, 1,3-Dioxolane 1072-47-5, 1,3-Dioxolane, 4-methyl- 1313-13-9, Manganese dioxide, uses 1313-27-5, Molybdenumoxide moo3, uses 1314-62-1, Vanadium oxide (V2O5), uses 1317-37-9, Iron sulfide Fes 1317-38-0, Copper oxide (CuO), uses 1317-40-4, Copper sulfide Cus 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound 7447-41-8, Lithium chloride (LiCl), uses 7550-35-8, Lithium bromide (LiBr) 7704-34-9, Sulfur, uses 7784-01-2, Silver chromate 7789-24-4, Lithium fluoride, uses 9004-67-5, Methyl cellulose 10377-51-2, Lithium iodide 11105-02-5, Silver vanadium oxide 12037-42-2, Vanadium oxide v6o13 12039-13-3, Titanium sulfide (TiS2) 12057-29-3, Lithium phosphide li3p 12068-85-8, Iron sulfide fes2 12789-09-2, Copper vanadium oxide 15365-14-7, Iron lithium phosphate felipo4 16969-45-2D, Pyridinium, derivs. 17009-90-4D, Imidazolium, derivs. 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo 26134-62-3, Lithium nitride (Li3N) 39300-70-4, Lithium nickeloxide 39457-42-6, Lithium manganese oxide 52627-24-4, Cobalt lithium oxide 70780-99-3, Lisicon 77641-62-4, Nasicon 155371-19-0, 1-Ethyl-3-methylimidazolium hexafluorophosphate 184905-46-2, Lithium nitrogen phosphorus oxide 244193-50-8, 1-Hexyl-3-methylimidazolium tetrafluoroborate 328090-25-1 445473-58-5, 1-Butyl-3-methylimidazolium octyl sulfate
RL: DEV (Device component use); USES (Uses)
(ionically conductive membranes for protection of active metal anodes and battery cells)

IT 7440-50-8, Copper, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; ionically conductive membranes for protection of active metal anodes and battery cells)

IT 11138-49-1, Sodium β-alumina 37220-89-6, Lithium β-alumina
RL: DEV (Device component use); USES (Uses)
(β-alumina type; ionically conductive membranes for protection of active metal anodes and battery cells)

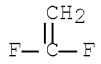
IT 7789-24-4, Lithium fluoride, uses 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(ionically conductive membranes for protection of active metal anodes and battery cells)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

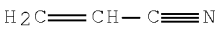
CRN 75-38-7
CMF C2 H2 F2



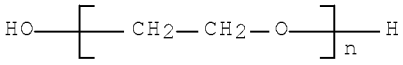
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 172 THERE ARE 172 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 5 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:802024 HCAPLUS Full-text
DN 141:298744
TI Photovoltaic cell with mesh electrode
IN Gaudiana, Russell; Montello, Alan
PA USA
SO U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S. Ser. No. 395,823.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 27

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040187911	A1	20040930	US 2003-723554	20031126
	CA 2456213	A1	20030220	CA 2002-2456213	20020531 <--
	WO 2003015189	A1	20030220	WO 2002-AT166	20020531 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

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            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
            RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
            UZ, VN, YU, ZA, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
            CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
            BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
    AU 2002355444        A1    20030224    AU 2002-355444         20020531 <--
    EP 1415352           A1    20040506    EP 2002-794483         20020531 <--
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            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
    CN 1541425           A     20041027    CN 2002-815625         20020531 <--
    JP 2004537446        T     20041216    JP 2003-520012         20020531 <--
    JP 4128528           B2    20080730
    US 20030230337       A1    20031218    US 2003-395823         20030324 <--
    US 7022910           B2    20060404
    WO 2004086462        A2    20041007    WO 2004-US8812         20040323
    WO 2004086462        A3    20041223
        W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
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            BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
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            SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
            TD, TG
    EP 1606846           A2    20051221    EP 2004-758052         20040323
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK
    JP 2006521700        T     20060921    JP 2006-507473         20040323
    WO 2004086464        A2    20041007    WO 2004-US8925         20040324
    WO 2004086464        A3    20041028
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            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
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        RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
            BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
            ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
            SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
            TD, TG
    EP 1606845           A2    20051221    EP 2004-758088         20040324
        R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK
    JP 2006523369        T     20061012    JP 2006-507509         20040324 <--
    US 20050257827       A1    20051124    US 2005-145333         20050603 <--
    US 20050268962       A1    20051208    US 2005-145128         20050603 <--
    US 20060076048       A1    20060413    US 2005-144272         20050603 <--
    US 20070012349       A1    20070118    US 2005-167763         20050627 <--
    US 20060005876       A1    20060112    US 2005-221439         20050908 <--
    US 20060090791       A1    20060504    US 2005-261197         20051028
    US 20070131277       A1    20070614    US 2007-649679         20070104
PRAI US 2003-395823      A2    20030324
    AT 2001-1231         A     20010807  <--
    US 2002-351691P      P     20020125  <--
```

US 2002-57394	A2	20020125	<--
US 2002-353138P	P	20020201	<--
US 2002-368832P	P	20020329	<--
WO 2002-AT166	W	20020531	<--
US 2002-390071P	P	20020620	<--
US 2002-396173P	P	20020716	<--
US 2002-400289P	P	20020731	<--
US 2002-258713	A2	20021025	<--
WO 2002-SE2049	W	20021108	
US 2002-427642P	P	20021119	
WO 2002-DE4563	W	20021212	
US 2003-350800	A2	20030124	
US 2003-350812	A2	20030124	
US 2003-350912	A2	20030124	
US 2003-350913	A2	20030124	
US 2003-350919	A2	20030124	
US 2003-351249	A2	20030124	
US 2003-351250	A2	20030124	
US 2003-351251	A2	20030124	
US 2003-351260	A2	20030124	
US 2003-351264	A2	20030124	
US 2003-351265	A2	20030124	
US 2003-351298	A2	20030124	
US 2003-351607	A2	20030124	
WO 2003-DE385	W	20030210	
US 2003-258709	A2	20030227	
WO 2003-AT131	W	20030506	
US 2003-258708	A2	20030522	
WO 2003-DE1867	W	20030605	
WO 2003-DE2463	W	20030722	
US 2003-495302P	P	20030815	
US 2003-723554	A1	20031126	
US 2003-526373P	P	20031201	
US 2004-546818P	P	20040219	
WO 2004-US8812	W	20040323	
WO 2004-US8925	W	20040324	
US 2004-498484	A2	20040614	
US 2004-486116	A2	20040713	
US 2004-589423P	P	20040720	
US 2004-590312P	P	20040722	
US 2004-590313P	P	20040722	
US 2004-897268	A2	20040722	
US 2004-504091	A2	20040811	
AD 2004-509935	A2	20041001	
US 2004-509935	A2	20041001	
US 2004-494560	A2	20041117	
US 2004-515159	A2	20041119	
US 2004-276	A2	20041130	
US 2004-637844P	P	20041220	
US 2004-638070P	P	20041221	
US 2005-33217	A2	20050110	
US 2005-522862	A2	20050131	
US 2005-663985P	P	20050321	
US 2005-664114P	P	20050321	
US 2005-664298P	P	20050322	
US 2005-664336P	P	20050323	
US 2005-261197	A1	20051028	

AB Photovoltaic cells that have a mesh electrode, as well as related systems, methods and components, are disclosed. The photovoltaic cell comprises: a first electrode, a mesh electrode, and an active layer between the first and

mesh electrodes, the active layer comprising: an electron acceptor material and an electron donor material.
IC ICM H01L0031-00
INCL 136252000; 136243000; 136256000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
ST solar photovoltaic cell mesh electrode; photoelectrochem cell mesh electrode
IT Liquid crystals
(discotic; photovoltaic cell with mesh electrode)
IT Coating materials
(elec. conductive; photovoltaic cell with mesh electrode)
IT Nanoparticles
(inorg.; photovoltaic cell with mesh electrode)
IT Conducting polymers
Electron acceptors
Electron donors
Photoelectric devices
Photoelectrochemical cells
Photoelectrodes
Wires
(photovoltaic cell with mesh electrode)
IT Alloys, uses
Fullerenes
Metals, uses
Oxides (inorganic), uses
Polyanilines
Polyphenyls
Polysilanes
RL: DEV (Device component use); USES (Uses)
(photovoltaic cell with mesh electrode)
IT Conducting polymers
(polythiophenes; photovoltaic cell with mesh electrode)
IT 7789-24-4, Lithium fluoride, uses 9033-83-4, Polyphenylene 25067-59-8, Polyvinylcarbazole 25233-30-1, Polyaniline 25233-34-5, Polythiophene 26498-02-2, Poly(2,5-thiophenediyl-1,2-ethenediyl) 91201-85-3, Polyisothianaphthene 96638-49-2, Poly(phenylenevinylene) 104934-50-1, Poly(3-hexylthiophene)
RL: DEV (Device component use); USES (Uses)
(photovoltaic cell with mesh electrode)
IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(photovoltaic cell with mesh electrode)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

L82 ANSWER 6 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:785290 HCAPLUS Full-text
DN 143:80833
TI Environmental aspects of utilization of the FUL-system lithium batteries
AU Plakhotnik, V. N.; Meshry, D.; Frolov, V. P.; Oreshkin, A. M.; Andryukov,

R. A.; Evtukh, A. A.; Soroka, N. E.; Gulivets, I. L.; Tovmash, N. F.; Plakhotnik, A. V.

CS Dnepropetr. Gos. Tekh. Univ. Zheleznodorozh. Transp., Dnepropetrovsk, Ukraine

SO Fundamental'nye Problemy Preobrazovaniya Energii v Litievykh Elektrokhimicheskikh Sistemakh, Materialy Mezhdunarodnoi Konferentsii, 7th, Saratov, Russian Federation, June 24-28, 2002 (2002), Meeting Date 2002, 134-135. Editor(s): Churikov, A. V. Publisher: Izdatel'stvo Saratovskogo Universiteta, Saratov, Russia. CODEN: 69FVYD; ISBN: 5-292-02797-9

DT Conference; General Review

LA Russian

AB A review. This paper is a review/discussion of the environmental aspects of the manufacture and use of secondary lithium batteries and current efforts in recycling components. In particular, the authors discuss the Lithium anode/LiBF4:γ-butyrolactone/ fluorocarbon polymer cathode battery system. Carbonaceous products are often included and intercalation effects discussed. In these batteries , lithium fluoride and lithium fluoride dimer are dangerous intermediate byproducts, and designs must take this into account.

CC 52-0 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 59

ST review environmental hazard secondary lithium battery fluoride dimer intermediate

IT Chemical engineering design
Health hazard
Intercalation
(environmental aspects of utilization of FUL-system lithium batteries)

IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(environmental aspects of utilization of FUL-system lithium batteries)

IT Carbonaceous materials (technological products)
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(environmental aspects of utilization of FUL-system lithium batteries)

IT Secondary batteries
(lithium; environmental aspects of utilization of FUL-system lithium batteries)

IT 96-48-0, γ-Butyrolactone
RL: DEV (Device component use); USES (Uses)
(environmental aspects of utilization of FUL-system lithium batteries)

IT 7789-24-4, Lithium fluoride, uses
12265-82-6, Lithium fluoride dimer
RL: DEV (Device component use); FMU (Formation, unclassified); FORM (Formation, nonpreparative); USES (Uses)
(environmental aspects of utilization of FUL-system lithium batteries)

IT 7439-93-2, Lithium, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(environmental aspects of utilization of FUL-system lithium batteries)

IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); FMU (Formation, unclassified); FORM (Formation, nonpreparative); USES (Uses)
(environmental aspects of utilization of FUL-system lithium

batteries)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

L82 ANSWER 7 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:513093 HCAPLUS Full-text
DN 141:57110
TI Metal fluorides as electrode materials for rechargeable batteries
IN Amatucci, Glenn G.
PA Rutgers, The State University, USA
SO U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of U.S. Pat. Appl. 2004 62,994.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040121235	A1	20040624	US 2003-721924	20031125 <--
	US 7371338	B2	20080513		
	US 20040062994	A1	20040401	US 2002-261863	20021001 <--
	US 20060019163	A1	20060126	US 2005-177729	20050708 <--
PRAI	US 2002-261863	A2	20021001 <--		
	US 2002-429492P	P	20021127		
	US 2003-721924	A2	20031125		
	US 2005-680253P	P	20050511		

AB The invention concerns safe and economical electrochem. active nanocomposites based on metal fluoride compds. useful in rechargeable battery cell electrodes. When incorporated as the active electrode material in lithium battery cell systems, the nanocomposites enable high, stable specific capacities.
IC ICM H01M0004-58
ICS C01D0003-02
INCL 429231950; X25-218.21; X42-922.1; X42-922.3; X42-922.4; X42-923.15; X42-922.5; X42-922.0; X42-349.0
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST electrode material rechargeable battery metal fluoride
IT Secondary batteries
(lithium; metal fluorides as electrode materials for rechargeable batteries)
IT Battery cathodes
Nanocomposites
(metal fluorides as electrode materials for rechargeable batteries)
IT Fluorides, uses
RL: DEV (Device component use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)
IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)
IT Metals, uses
RL: MOA (Modifier or additive use); USES (Uses)

(metal fluorides as electrode materials for rechargeable batteries)

IT 7439-93-2, Lithium, uses 7783-50-8, Iron fluoride (FeF3) 7789-24-4, Lithium fluoride, uses 15681-82-0, Ammonium iron tetrafluoride 170214-46-7, Lead Lithium fluoride 289713-47-9, Lithium manganese fluoride 699005-48-6, Iron lithium fluoride 699005-49-7, Cobalt lithium fluoride 699005-50-0, Lithium nickel fluoride 699005-51-1, Copper Lithium fluoride 699005-52-2, Lithium vanadium fluoride 699005-53-3, Lithium molybdenum fluoride 699005-54-4, Antimony Lithium fluoride 699005-55-5, Bismuth Lithium fluoride 699005-56-6, Lithium fluoride silicide 699005-57-7, Iron lithium fluoride felif3
RL: DEV (Device component use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)

IT 7439-89-6, Iron, uses 7439-92-1, Lead, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-21-3, Silicon, uses 7440-36-0, Antimony, uses 7440-44-0, Carbon, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-62-2, Vanadium, uses 7440-69-9, Bismuth, uses 7782-42-5, Graphite, uses 9011-17-0, Kynar 2801
RL: MOA (Modifier or additive use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)

IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)

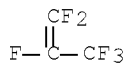
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9011-17-0, Kynar 2801
RL: MOA (Modifier or additive use); USES (Uses)
(metal fluorides as electrode materials for rechargeable batteries)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

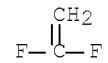
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 8 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:453546 HCAPLUS Full-text
DN 141:9634
TI Lithium ion battery cathode compositions having a lithium compound additive to eliminate irreversible capacity loss
IN Kejha, Joseph B.; Smith, W. Novis
PA USA
SO PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004047202	A1	20040603	WO 2002-US36878	20021118 <--
W: CA, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
US 20060121352	A1	20060608	US 2005-534313	20050509 <--
PRAI WO 2002-US36878	W	20021118		

AB The invention concerns cathode compns. for use in lithium-ion cells and other metal-ion cells, which have a lithium compound or other metal compound additives, matching the selected chemical of the cell, which additives eliminate irreversible capacity loss. The additive is selected from Li2CO3, Li2(SO3), Li2O, Li3N, Li borate, Li boride, LiF, and/or Li oxalate.
IC ICM H01M0004-62
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery cathode compn irreversible capacity loss elimination
IT Battery cathodes
Plasticizers
(lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)
IT Secondary batteries
(lithium; lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)
IT Secondary batteries
(metal-ion; lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)
IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)
IT 553-91-3, Lithium oxalate 554-13-2, LIthium carbonate 7439-93-2D, Lithium, compound 7789-24-4, Lithium fluoride, uses 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12057-24-8, Lithium oxide, uses

12190-79-3, Cobalt lithium oxide colio2 12676-27-6 26134-62-3, Lithium nitride 34381-44-7, Sulfurous acid, lithium salt 39377-57-6, Lithium boride
RL: MOA (Modifier or additive use); USES (Uses)
(lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)

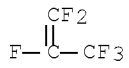
IT 7789-24-4, Lithium fluoride, uses
9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(lithium ion battery cathode compns. having lithium compound additive to eliminate irreversible capacity loss)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

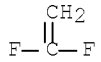
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 9 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:413175 HCAPLUS Full-text
DN 140:409656
TI Separators for electrochemical devices having an ionically conductive solid compound therein
IN Smith, Novis W.; Kejha, Joseph B.
PA USA
SO PCT Int. Appl., 12 pp.
CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004042853	A1	20040521	WO 2002-US34875	20021030 <--
W: CA, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
US 20060019169	A1	20060126	US 2005-532700	20050426 <--
PRAI WO 2002-US34875	W	20021030 <--		

AB Separators are disclosed for electrochem. devices, which devices have a polymer gel electrolyte separator with an ionically conductive fluoride based solid compound, or a solid state separator with an electrolyte and an ionically conductive fluoride based solid compound

IC ICM H01M0006-14
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 72, 76
ST electrochem cell separator ionically conductive solid compd; battery separator ionically conductive solid compd
IT Electric apparatus
(electrochem.; separators for electrochem. devices having ionically conductive solid compound therein)
IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(gels; separators for electrochem. devices having ionically conductive solid compound therein)
IT Secondary batteries
(lithium; separators for electrochem. devices having ionically conductive solid compound therein)
IT Gels
(polymers; separators for electrochem. devices having ionically conductive solid compound therein)
IT Plasticizers
Secondary battery separators
Separators
(separators for electrochem. devices having ionically conductive solid compound therein)
IT Fluoropolymers, uses
Polyamides, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(separators for electrochem. devices having ionically conductive solid compound therein)
IT Capacitors
(ultracapacitors; separators for electrochem. devices having ionically conductive solid compound therein)
IT 96-49-1, Ethylene carbonate 7681-49-4, Sodium fluoride, uses 7783-40-6, Magnesium fluoride 7789-24-4, Lithium fluoride, uses 9002-86-2, Polyvinyl chloride 9011-17-0, Hexafluoropropylene-vinylidene difluoride copolymer 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(separators for electrochem. devices having ionically

conductive solid compound therein)

IT 96-48-0, γ-Butyrolactone 1309-48-4, Magnesium oxide (MgO), uses
1344-28-1, Alumina, uses 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(separators for electrochem. devices having ionically conductive solid compound therein)

IT 7681-49-4, Sodium fluoride, uses
7783-40-6, Magnesium fluoride
7789-24-4, Lithium fluoride, uses
9002-86-2, Polyvinyl chloride
9011-17-0, Hexafluoropropylene-vinylidene difluoride copolymer 24937-79-9, Pvdf
25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(separators for electrochem. devices having ionically conductive solid compound therein)

RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

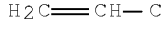
RN 7783-40-6 HCAPLUS
CN Magnesium fluoride (MgF2) (CA INDEX NAME)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

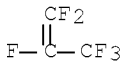
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

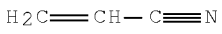
CM 1

CRN 75-38-7
CMF C2 H2 F2

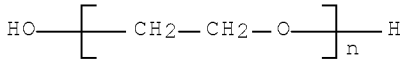
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 10 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:249187 HCAPLUS Full-text
DN 140:256307
TI New electrode materials and electrodes for lithium batteries
IN Balaya, Palani; Li, Hong; Maier, Joachim
PA Max-Planck-Gesellschaft zur Foerderung der Wissenschaften E.V., Germany
SO Ger. Offen., 22 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10242694	A1	20040325	DE 2002-10242694	20020913 <--
	WO 2004034489	A2	20040422	WO 2003-EP10138	20030911 <--
	WO 2004034489	A3	20050303		
	W: JP, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	EP 1540752	A2	20050615	EP 2003-788901	20030911 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	US 20060035148	A1	20060216	US 2005-527638	20050819 <--
PRAI	DE 2002-10242694	A	20020913 <--		
	WO 2003-EP10138	W	20030911		

AB The invention concerns the use of ≥1 transition metal halide with a binder, e.g. ≥1 of PVDF, PTFE, or PAN, and optionally with ≥1 conductive addition, as for example soot, graphite, a metal powder or metal fibers, as electrode in a battery. Further electrode materials are based on ruthenium oxide, molybdenum oxide, lithiumfluorid or lithium oxide.

IC ICM H01M0004-62
ICS H01M0004-36
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST electrode material lithium battery
IT Secondary batteries
(lithium; new electrode materials and electrodes for lithium batteries)
IT Clusters
(metal; new electrode materials and electrodes for lithium batteries)
IT Battery electrodes
(new electrode materials and electrodes for lithium batteries)
IT Transition metal halides
RL: DEV (Device component use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)
IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)
IT Metallic fibers
RL: MOA (Modifier or additive use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)
IT Metals, uses

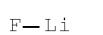
RL: MOA (Modifier or additive use); USES (Uses)
(powder; new electrode materials and electrodes for lithium batteries)

IT 7783-47-3, Tin difluoride 10028-18-9, Nickel fluoride 10049-12-4, Vanadium fluoride vf3 11098-99-0, Molybdenum oxide 11113-56-7, Chromium fluoride 11113-57-8, Cobalt fluoride 11113-59-0, Copper fluoride 11113-65-8, Iron fluoride 11113-71-6, Manganese fluoride 11113-84-1, Ruthenium oxide 39427-37-7, Vanadium fluoride 51142-88-2, Titanium fluoride 51311-17-2, Carbon fluoride
RL: DEV (Device component use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)

IT 7782-42-5, Graphite, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12057-24-8, Lithium oxide li2o, uses 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile
RL: MOA (Modifier or additive use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)

IT 7789-24-4, Lithium fluoride, uses 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile
RL: MOA (Modifier or additive use); USES (Uses)
(new electrode materials and electrodes for lithium batteries)

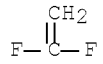
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

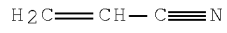
CRN 75-38-7
CMF C2 H2 F2



RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



L82 ANSWER 11 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:118650 HCAPLUS Full-text
DN 140:149190
TI Secondary nonaqueous electrolyte battery
IN Koga, Hideyuki; Fujimoto, Masahisa; Tarui, Haruki; Fujitani, Shin
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004047405	A	20040212	JP 2002-275555	20020920 <--
	JP 4030397	B2	20080109		
PRAI	JP 2002-148581	A	20020523 <--		

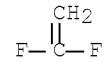
AB The battery has a cathode, containing CuF2 or Cu and/or a Cu compound as active mass, a nonaq. electrolyte solution, and an anode containing a Li-intercalating material; where the cathode, the anode, and/or the electrolyte solution contains LiF, and the cathode or the surface of the cathode active mass is coated with a Li+-conductor.

IC ICM H01M0004-02
ICS H01M0004-38; H01M0004-48; H01M0004-58; H01M0004-62; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery cathode copper compd lithium ion conductor coating; lithium fluoride cathode secondary battery
IT Battery cathodes
(cathodes containing copper and/or copper compound active mass, lithium fluoride and Li+-conductor coating for secondary batteries)
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(cathodes containing copper and/or copper compound active mass, lithium fluoride and Li+-conductor coating for secondary batteries)
IT 7440-50-8, Copper, uses 7789-24-4, Lithium fluoride (LiF), uses 24937-79-9, PVDF
RL: DEV (Device component use); USES (Uses)
(cathodes containing copper and/or copper compound active mass, lithium fluoride and Li+-conductor coating for secondary batteries)
IT 7789-24-4, Lithium fluoride (LiF), uses 24937-79-9, PVDF
RL: DEV (Device component use); USES (Uses)
(cathodes containing copper and/or copper compound active mass, lithium fluoride and Li+-conductor coating for secondary batteries)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 12 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:100613 HCAPLUS Full-text
DN 140:131168
TI Apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochemical devices
IN Benson, Martin H.; Neudecker, Bernd J.
PA ITN Energym Systems, Inc., USA
SO U.S. Pat. Appl. Publ., 25 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 20040023106	A1	20040205	US 2002-210180	20020802 <--
US 6770176	B2	20040803		
US 20040219434	A1	20041104	US 2004-840497	20040506 <--
PRAI US 2002-210180	A3	20020802 <--		

AB An apparatus for use as a fracture absorption layer, an apparatus for use as an electrochem. device, and methods of manufacturing the same are disclosed. The apparatus and methods of the present invention may be of particular use in the manufacture of thin-film, lightwt., flexible or conformable, electrochem. devices such as batteries, and arrays of such devices. The present invention may provide many advantages including stunting fractures in a first electrochem. layer from propagating in a second electrochem. layer.

IC ICM A01M0006-00
INCL 429122000; 429126000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72
ST battery fabrication fracture absorption layer app; electrochem device fabrication fracture absorption layer app
IT Fluoropolymers, uses
Polyesters, uses
Polyimides, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)
IT Sol-gel processing
(coating; apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)
IT Coating process
(sol-gel; apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)
IT Alloys, uses
Polymers, uses
Shape memory alloys

RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)

IT Electrolytes
Primary batteries
(thin-film; apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)

IT 554-13-2, Lithium carbonate 1303-28-2, Arsenic oxide (As2O5) 1303-86-2, Boron oxide (B2O3), uses 1304-56-9, Beryllium oxide beo, uses 1306-38-3, Ceria, uses 1310-53-8, Germanium oxide (GeO2), uses 1314-23-4, Zirconia, uses 1314-36-9, Yttria, uses 1314-56-3, Phosphorus pentoxide, uses 1327-53-3, Arsenic oxide (As2O3) 1344-28-1, Alumina, uses 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7440-20-2, Scandium, uses 7440-21-3, Silicon, uses 7440-31-5, Tin, uses 7440-38-2, Arsenic, uses 7440-41-7, Beryllium, uses 7440-42-8, Boron, uses 7440-45-1, Cerium, uses 7440-56-4, Germanium, uses 7440-65-5, Yttrium, uses 7440-67-7, Zirconium, uses 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7631-86-9, Silica, uses 7704-34-9, Sulfur, uses 7723-14-0, Phosphorus, uses 7723-14-0D, Phosphorus, compound 7789-24-4, Lithium fluoride , uses 7791-03-9, Lithium perchlorate 9002-84-0, Ptfe 9003-39-8, Polyvinylpyrrolidone 10043-11-5, Boron nitride (BN), uses 10377-48-7, LIthium sulfate 10377-51-2, Lithium iodide 10377-52-3, LIthium phosphate 11118-04-0, Lithium phosphorus nitride Li7PN4 11126-15-1, Lithium vanadium oxide 12003-67-7, Aluminum lithium oxide allio2 12005-14-0, Aluminum lithium oxide al5lio8 12025-11-5, Germanium lithium oxide geli4o4 12033-89-5, Silicon nitride, uses 12057-24-8, Lithia, uses 12060-08-1, Scandium oxide (Sc2O3) 12065-36-0, Germanium nitride ge3n4 12136-91-3, Phosphorus nitride p3n5 12169-03-8, Lithium yttrium oxide liyo2 12209-15-3, Lithium scandium oxide lisco2 12232-41-6, Beryllium lithium oxide Be2Li2O3 12355-58-7, Aluminum lithium oxide alli5o4 12384-10-0, Lithium zirconium oxide li8zro6 12408-97-8, Boron lithium nitride BLi3N2 12521-45-8, Lithium silicon nitride LiSi2N3 12521-55-0, Lithium silicon nitride Li2SiN2 12521-66-3, Lithium silicon nitride Li8SiN4 13453-69-5, Lithium borate libo2 13453-84-4, Lithium silicon oxide li4sio4 13478-14-3, Lithium arsenate 14024-11-4, Aluminum lithium chloride AlLiCl4 14283-07-9, Lithium tetrafluoroborate 15138-76-8, Lithium tetrafluoroaluminate 17739-47-8, Phosphorus nitride pn 19497-94-0, Aluminum lithium silicate allisio4 21324-40-3, Lithium hexafluorophosphate 24304-00-5, Aluminum nitride Aln 25322-68-3 , Polyethylene oxide 25658-42-8, Zirconium nitride (ZrN) 25764-13-0, Yttrium nitride (YN) 26134-62-3, Lithium nitride li3n 30622-39-0, LIthium titanium phosphate LiTi2(PO4)3 39300-70-4, Lithium nickel oxide 39449-52-0, Lithium oxide silicate (Li8O2(SiO4)) 39457-42-6, Lithium manganese oxide 56320-64-0 57349-02-7, Cerium lithium oxide celio2 60883-88-7, Lithium phosphorus nitride LiPN2 61027-73-4, Aluminum lithium nitride AlLi3N2 62795-18-0 66581-07-5 66581-08-6 67181-65-1, Lithium silicon nitride Li5SiN3 76068-31-0 87796-15-4, Lithium scandium phosphate Li3Sc2(PO4)3 101993-97-9, Lithium phosphate silicate Li3.6(PO4)0.4(SiO4)0.6 111706-40-2, Cobalt lithium oxide CoLi0-1O2 113957-82-7, Lithium silicon nitride Li21Si3N11 113957-83-8, Lithium silicon nitride Li18Si3N10 143080-25-5, Phosphorus nitride oxide p4n6o 170171-06-9, Aluminum lithium fluoride AlLiF4 184905-46-2, Lithium nitrogen phosphorus oxide 651045-58-8, Lithium nitrogen phosphorus tin oxide
RL: DEV (Device component use); USES (Uses)
(apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)

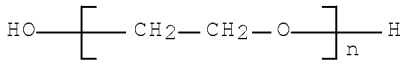
IT 7789-24-4, Lithium fluoride, uses
25322-68-3, Polyethylene oxide

RL: DEV (Device component use); USES (Uses)
(apparatus and method for fracture absorption layer for use in fabrication of thin-film electrochem. devices)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 13 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:78581 HCAPLUS Full-text
DN 140:131130
TI Composite electrodes and encapsulated electrode particles for use in solid electrochemical devices
IN Holman, Richard K.; Chiang, Yet-ming; Gozdz, Antoni S.; Loxley, Andrew; Nunes, Benjamin; Ostraat, Michele; Riley, Gilbert N.; Viola, Michael S.
PA A123 Systems, Inc., USA
SO U.S. Pat. Appl. Publ., 28 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040018430	A1	20040129	US 2003-354405	20030130 <--
	US 7087348	B2	20060808		
	WO 2004011901	A2	20040205	WO 2003-US22954	20030722 <--
	WO 2004011901	A3	20040624		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003281736	A1	20040216	AU 2003-281736	20030722 <--
PRAI	US 2002-398697P	P	20020726	<--	
	US 2003-354405	A	20030130		
	WO 2003-US22954	W	20030722		

AB The present invention relates generally to electrodes for use in electrochem. devices, and more particularly, to coated electrode particles for use in solid electrochem. cells, and to materials and systems for improving electronic

conductivity and repulsive force characteristics of an electrode network. The present invention also relates to an article comprising a plurality of electroactive particles that form an electrode network wherein the electroactive particles are coated with a system of elec. conductive and low refractive index materials.

IC ICM H01M0004-64
ICS H01M0004-62

INCL 429233000; 429217000; 429232000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 56, 72

ST electrochem device composite electrode; encapsulated electrode particle electrochem device; battery encapsulated electrode particle

IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(block; composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

IT Battery electrodes
Conducting polymers
Electric conductivity
Electrodes
Ionic conductivity
Polymer electrolytes
Sol-gel processing
(composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

IT Fluoropolymers, uses
Glass, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

IT Secondary batteries
(lithium; composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

IT 79-10-7D, Acrylic acid, fluorinated ester 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 1307-96-6, Cobalt oxide coo, uses 1313-13-9, Manganese oxide mno2, uses 1313-99-1, Nickel oxide nio, uses 1314-62-1, Vanadium oxide, uses 1317-34-6, Manganese oxide mn2o3 1317-35-7, Manganese oxide mn3o4 1344-43-0, Manganese oxide mno, uses 1345-25-1, Iron oxide feo, uses 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-36-0, Antimony, uses 7440-42-8, Boron, uses 7440-56-4, Germanium, uses 7440-66-6, Zinc, uses 7440-69-9, Bismuth, uses 7782-42-5, Graphite, uses 9002-84-0, Ptfe 9003-07-0, Polypropylene 9003-53-6, Polystyrene 11099-11-9, Vanadium oxide 11126-15-1, Lithium vanadium oxide 12002-78-7 12031-65-1, Lithium nickel oxide linio2 12037-30-8, Vanadium oxide v6o11 12037-42-2D, Vanadium oxide V6O13, lithium-intercalated 12048-27-0, Bili 12057-17-9, Lithium manganese oxide limn2o4 12057-22-6, Lizn 12057-30-6, Antimony, compound with lithium (1:3) 12057-33-9 12063-07-9, Iron lithium oxide fe2lio4 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide colio2 12253-44-0 12338-02-2 13463-67-7, Titanium oxide, uses 13826-59-0, Lithium manganese phosphate limnpo4 15365-14-7, Iron lithium phosphate felipo4 18282-10-5, Tin dioxide 18358-13-9D, Methacrylate, fluorinated ester 21651-19-4, Tin monoxide 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo 37217-08-6, Lithium titanium oxide liti2o4 50926-11-9, Ito 52627-24-4, Cobalt lithium oxide 53262-48-9 55608-41-8 56627-44-2 61812-08-6,

Lithium silicide Li21Si8 66403-10-9, Lithium boride (Li5B4) 67070-82-0 71012-86-7, Lithium boride (Li7B6) 74083-26-4 76036-33-4, Lithium silicide Li12Si7 114778-10-8, Iron lithium sulfate fe2li2(so4)3 130038-50-5D, 2-Propenoic acid, 2-methyl-, ion(1-), homopolymer, fluoroalkyl derivative 413569-08-1D, 2-Propenoic acid, ion(1-) homopolymer, fluoroalkyl derivative 496816-56-9, Lithium, compound with silver (10:3)
RL: DEV (Device component use); USES (Uses)
(composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

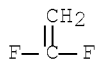
IT 1303-86-2, Boron oxide (B2O3), uses 1304-76-3, Bismuth oxide, uses 1314-23-4, Zirconium oxide, uses 1314-56-3, Phosphorus oxide (P2O5), uses 1317-36-8, Lead oxide (PbO), uses 1335-25-7, Lead oxide 1343-98-2, Silicon hydroxide 1344-28-1, Aluminum oxide, uses 7447-41-8, Lithium chloride, uses 7631-86-9, Silicon oxide, uses 7789-24-4, Lithium fluoride, uses 10043-35-3, Boric acid (H3BO3), uses 10361-43-0, Bismuth hydroxide 10377-51-2, Lithium iodide 11098-99-0, Molybdenum oxide 12057-24-8, Lithia, uses 12651-23-9, Titanium hydroxide 14475-63-9, Zirconium hydroxide 21645-51-2, Aluminum hydroxide, uses 39345-91-0, Lead hydroxide 126853-99-4, Molybdenum hydroxide 157858-56-5, Germanium oxide 350010-45-6, Germanium hydroxide
RL: DEV (Device component use); USES (Uses)
(glass; composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

IT 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

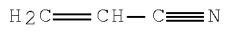
CRN 75-38-7
CMF C2 H2 F2



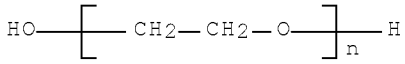
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(glass; composite electrodes and encapsulated electrode particles for use in solid electrochem. devices)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 146 THERE ARE 146 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 14 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:991834 HCAPLUS Full-text
DN 140:29532
TI Lithium based electrochemical devices having a ceramic separator glued therein by an ion conductive adhesive
IN Kejha, Joseph B.; Smith, Novis W.; McCloskey, Joel R.
PA USA
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003105258	A1	20031218	WO 2002-US18175	20020608 <--
	W: CA, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1512187	A1	20050309	EP 2002-807507	20020608 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2005529468	T	20050929	JP 2004-512222	20020608 <--
	US 20060105244	A1	20060518	US 2004-516986	20041206 <--
PRAI	WO 2002-US18175	W	20020608 <--		

AB The invention concerns lithium based electrochem. devices which contain at least two porous electrodes, which include expanded metal microgrids coated with active materials, with a porous ceramic separator there-between in adherent contact with one electrode, and an ionically conductive organic adhesive on the separator in adherent contact with the second electrode. A nonaq. electrolyte is soaked into the electrodes and the separator with the device contained in an enclosure with two external terminals.
IC ICM H01M0006-18
ICS H01M0002-16; H01M0002-18
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 57, 76
ST lithium battery glued ceramic separator ion conductive adhesive
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(adhesive; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT Adhesives
(ion conductive; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT Capacitors
Ceramics
Secondary battery separators
(lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT Secondary batteries
(lithium; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT 7783-40-6, Magnesium fluoride
RL: DEV (Device component use); USES (Uses)
(adhesive containing; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

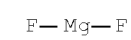
IT 110-71-4
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive containing; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 872-50-4, uses 917-54-4, Lithium methide 1344-28-1, α-Alumina, uses 7439-93-2D, Lithium, salt 7732-18-5, Water, uses 7789-24-4, Lithium fluoride, uses 9002-89-5, Polyvinyl alcohol 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 132843-44-8, Lithium bis(pentafluoroethanesulfonyl)amide
RL: DEV (Device component use); USES (Uses)
(lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

IT 7783-40-6, Magnesium fluoride
RL: DEV (Device component use); USES (Uses)
(adhesive containing; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

RN 7783-40-6 HCAPLUS
CN Magnesium fluoride (MgF2) (CA INDEX NAME)

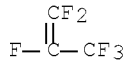


IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive; lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

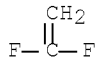
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

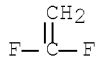
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(lithium based electrochem. devices having ceramic separator glued therein by ion conductive adhesive)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 15 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:935073 HCAPLUS Full-text
DN 140:393365
TI Tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells manufacture
IN Shen, Peikang
PA Zhongshan University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV

DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1385914	A	20021218	CN 2002-115378	20020614 <--
PRAI	CN 2002-115378		20020614 <--		

AB A porous catalytic electrode for methanol fuel cells consists of nanometer-sized or micron-sized WC, C, or an oxide of Si, Pb, W, Sn, or Al, and a catalytic active material (e.g., a Pt group metal or alloy, porphyrin, phthalocyanine, rare earth metal, or transition metal) is deposited by constant-current electrochem. reduction on a a substrate selected from Au, Pt, Ti, Ag (or alloys), stainless steel, hard Al alloy, carbon paper, carbon fibers, or ITO conductive glass. Pt/WO3 electrode is fabricated by constant-current electrochem. reduction in a 30% aqueous isopropanol solution containing 50 mM W and 4-8 mM Pt (prepared from Pt black) under constant currents. Pt/Pb/PbxOy electrode is prepared by: (1) preparation of a Nafion suspension containing Pb(NO3)2, HClO4, NaF, and MeOH, (2) anodization at 20 mA/cm for 3 min to deposit Pb oxide, and (3) electrolysis in aqueous chloroplatinic acid at cathodic currents 0.2 mA/cm2 for 2 min. Pt/Ru/WO3 electrode is prepared by electrochem. reduction in a solution containing W, chloroplatinic acid, and RuO2 at -0.15 V (vs. SEC) for 30 min.

IC ICM H01M0004-86
ICS H01M0004-88
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST methanol fuel cell catalytic electrode manuf; platinum lead tungsten carbide electrode methanol fuel cell
IT Carbon fibers, uses
RL: DEV (Device component use); USES (Uses)
(catalyst substrate; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Porphyrins
Rare earth metals, uses
Transition metals, uses
RL: DEV (Device component use); USES (Uses)
(catalyst support; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fluorine- and sulfo-containing, ionomers, electrodes; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylene-, sulfo-containing, ionomers, electrodes ; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Ionomers
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylenes, fluorine- and sulfo-containing, electrodes; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Fuel cell anodes
Fuel cell cathodes
Fuel cell electrodes
(tungsten carbide-supported platinum-lead catalysts as porous

electrodes for methanol fuel cells)
IT Platinum-group metals
RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)
(tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT Platinum alloy, base
RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)
(tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT 7440-22-4, Silver, uses 7440-32-6, Titanium, uses 7440-57-5, Gold, uses 12597-68-1, Stainless steel, uses
RL: DEV (Device component use); USES (Uses)
(catalyst substrate; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT 574-93-6, Phthalocyanine
RL: DEV (Device component use); USES (Uses)
(catalyst support; tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT 1314-35-8, Tungsten oxide (WO3), uses 1332-29-2, Tin oxide 1335-25-7, Lead oxide 7439-92-1, Lead, uses 7440-06-4, Platinum, uses 7440-18-8, Ruthenium, uses
RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)
(tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)
IT 67-56-1, Methanol, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(tungsten carbide-supported platinum-lead catalysts as porous electrodes for methanol fuel cells)

L82 ANSWER 16 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:735274 HCAPLUS Full-text
DN 139:233079
TI Nonaqueous-electrolyte battery with coated carbon anode and its manufacture
IN Okada, Mikio; Takehara, Zenichiro
PA Japan Storage Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003263984	A	20030919	JP 2002-65336	20020311 <--
PRAI JP 2002-65336		20020311 <--		

AB The title battery is equipped with a cathode containing a Li-intercalating inorg. or organic compound, an anode containing a C material having a LiF coating, and a polymer electrolyte. The claimed process comprises immersing a C anode material in an electrolyte solution containing a Li salt and HF or charging the anode material in the electrolyte solution to form a LiF coating on the anode material and then pouring an electrolyte solution in a battery case. The battery provides long cycle life.
IC ICM H01M0004-58
ICS H01M0004-02; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium fluoride coating carbon anode nonaq electrolyte battery

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(lithium complexes, electrolytes; nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT Secondary batteries
(lithium; nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT Battery anodes
(nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT 113066-89-0, Cobalt lithium nickel oxide (Co0.2LiNi0.8O2)
RL: DEV (Device component use); USES (Uses)
(cathode; nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT 7439-93-2D, Lithium, polymer complexes 9011-17-0D, Hexafluoropropylene-vinylidene fluoride copolymer, lithium complexes 25322-68-3D, Polyethylene oxide, lithium complexes
RL: DEV (Device component use); USES (Uses)
(electrolytes; nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT 7782-42-5, Graphite, uses
RL: DEV (Device component use); USES (Uses)
(nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

IT 7789-24-4P, Lithium fluoride, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

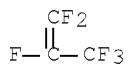
IT 9011-17-0D, Hexafluoropropylene-vinylidene fluoride copolymer, lithium complexes 25322-68-3D, Polyethylene oxide, lithium complexes
RL: DEV (Device component use); USES (Uses)
(electrolytes; nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)

RN 9011-17-0 HCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

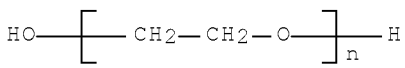
CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4P, Lithium fluoride, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(nonaq.-electrolyte battery with carbon anode manufactured by coating with lithium fluoride)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 17 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:675721 HCAPLUS Full-text
DN 139:167015
TI Secondary nonaqueous electrolyte battery
IN Liu, Hsing-Chiang
PA Japan Storage Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

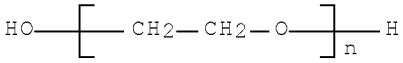
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003242964	A	20030829	JP 2002-42823	20020220 <--
	JP 4088755	B2	20080521		
PRAI	JP 2002-42823		20020220 <--		

AB The battery a Li, Li alloy, or Li intercalating anode and a cathode, which contains polymer electrolyte covered S. The battery may also have polymer electrolyte layers between the separator and the electrodes, and the anode may have a F containing coating.
IC ICM H01M0004-02
ICS H01M0004-62; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery cathode polymer electrolyte coating sulfur
IT Battery anodes
(anodes with fluoride containing coatings in for secondary lithium batteries with cathodes containing polymer electrolyte coated sulfur)

IT Battery cathodes
(cathodes containing polymer electrolyte coated sulfur for secondary lithium batteries)
IT Carbon black, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(cathodes containing polymer electrolyte coated sulfur-acetylene black for secondary lithium batteries)
IT Secondary batteries
(lithium; anodes with fluoride containing coatings in for secondary lithium batteries with cathodes containing polymer electrolyte coated sulfur)
IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(anodes with fluoride containing coatings in for secondary lithium batteries with cathodes containing polymer electrolyte coated sulfur)
IT 7704-34-9, Sulfur, uses
RL: DEV (Device component use); USES (Uses)
(cathodes containing polymer electrolyte coated sulfur for secondary lithium batteries)
IT 25322-68-3, Peo 132843-44-8
RL: DEV (Device component use); USES (Uses)
(cathodes containing polymer electrolyte coated sulfur-acetylene black for secondary lithium batteries)
IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(anodes with fluoride containing coatings in for secondary lithium batteries with cathodes containing polymer electrolyte coated sulfur)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(cathodes containing polymer electrolyte coated sulfur-acetylene black for secondary lithium batteries)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 18 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:656286 HCAPLUS Full-text
DN 139:182871
TI Polymer lithium battery with ionic electrolyte
IN Huang, Sui-Yang
PA USA
SO U.S. Pat. Appl. Publ., 10 pp.

CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 20030157409	A1	20030821	US 2003-368926	20030218 <--
PRAI US 2002-358593P	P	20020221 <--		

AB There is disclosed a novel rechargeable lithium battery with ionic electrolyte. The embodiments for the new polymer lithium ion batteries in the present invention comprise three major components, each of which is a composite: an anode, a cathode, and a polymer-gel-electrolyte-separator system. The anode consists of a lithium ion host such as graphite as active materials. The cathode is a mixture of lithium compds., high surface area carbon and sometimes a catalyst. The polymer-gel -electrolyte-separator system comprises inorg. electrolyte as active material, which is immobilized in the polymer matrix. Two chemistries involved in these embodiments of batteries include intercalation of lithium ions and catalyzed electrolysis of lithium compds.

IC ICM H01M0010-40
ICS H01M0004-58; H01M0004-62; H01M0004-66; H01M0004-50; H01M0004-52
INCL 429306000; 429231800; 429217000; 429245000; 429231950; 429223000; 429224000; 429231100
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST polymer lithium battery ionic electrolyte
IT Fluoropolymers, uses
Polyimides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(binder; polymer lithium battery with ionic electrolyte)
IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluorine-containing, matrix; polymer lithium battery with ionic electrolyte)
IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro, matrix; polymer lithium battery with ionic electrolyte)
IT Secondary batteries
(lithium; polymer lithium battery with ionic electrolyte)
IT Epoxy resins, uses
Polyoxyalkylenes, uses
Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; polymer lithium battery with ionic electrolyte)
IT Battery anodes
Battery cathodes
Battery electrolytes
Secondary battery separators
(polymer lithium battery with ionic electrolyte)
IT Alloys, uses
Carbonaceous materials (technological products)
Glass fibers, uses
Intermetallic compounds
Petroleum coke

Polyolefins
Synthetic polymeric fibers, uses
RL: DEV (Device component use); USES (Uses)
(polymer lithium battery with ionic electrolyte)

IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polysiloxane-, matrix; polymer lithium battery with ionic electrolyte)

IT 7440-44-0, Activated carbon, uses
RL: DEV (Device component use); USES (Uses)
(activated; polymer lithium battery with ionic electrolyte)

IT 9002-84-0, Ptfe 24937-79-9, Pvdf 25038-71-5, Ethylene-tetrafluoroethylene copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(binder; polymer lithium battery with ionic electrolyte)

IT 7631-86-9, Fumed silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(colloidal, filler; polymer lithium battery with ionic electrolyte)

IT 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 12597-68-1, Stainless steel, uses
RL: DEV (Device component use); USES (Uses)
(current collector; polymer lithium battery with ionic electrolyte)

IT 1344-28-1, Alumina, uses 13463-67-7, Titania, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filler; polymer lithium battery with ionic electrolyte)

IT 9003-05-8, Polyacrylamide 9003-20-7, Polyvinyl acetate 9003-39-8, Polyvinylpyrrolidone 9011-14-7, Pmma 25014-41-9, Polyacrylonitrile 25322-68-3, Peo 31900-57-9, Polydimethylsiloxane 413569-08-1, 2-Propenoic acid, ion(1-), homopolymer, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; polymer lithium battery with ionic electrolyte)

IT 7719-12-2, Phosphorus trichloride 10294-34-5, Boron trichloride 13450-90-3, Gallium trichloride
RL: CAT (Catalyst use); USES (Uses)
(polymer lithium battery with ionic electrolyte)

IT 554-13-2, Lithium carbonate 1308-38-9, Chromium oxide cr2o3, uses 1309-37-1, Ferric oxide, uses 1310-65-2, Lithium hydroxide 1313-13-9, Manganese dioxide, uses 1314-62-1, Vanadium oxide (V2O5), uses 1317-38-0, Copper oxide cuo, uses 7446-70-0, Aluminum chloride, uses 7447-41-8, Lithium chloride (LiCl), uses 7632-51-1 7719-09-7, Thionyl chloride 7782-42-5, Graphite, uses 7789-24-4, Lithium fluoride, uses 7790-69-4, Lithium nitrate 7791-25-5, Sulfuryl chloride 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9016-80-2, Polymethylpentene 10025-67-9, Sulfur chloride s2cl2 10026-04-7 10377-48-7, Lithium sulfate 10377-52-3, Trilithium phosphate 10545-99-0, Sulfur chloride scl2 12017-00-4, Cobalt oxide coo2 12031-65-1, Lithium nickel oxide linio2 12031-80-0, Lithium oxide li2o2 12057-17-9, Lithium manganese oxide limn2o4 12057-24-8, Lithium oxide (Li2O), uses 12057-29-3, Lithium phosphide li3p 12136-58-2, Lithium sulfide (Li2S) 12190-79-3, Cobalt lithium oxide colio2 12678-32-9, Lithium phosphide li2p5 14024-11-4, Lithium tetrachloroaluminate

15955-98-3, Lithium tetrachlorogallate 18282-10-5, Tin dioxide
21324-40-3, Lithium hexafluorophosphate 26134-62-3, Lithium nitride
(Li3N) 62852-65-7, Lithium decachlorodecaborate(2-) 111853-04-4
177997-13-6, Aluminum Cobalt lithium nickel oxide 182442-95-1, Cobalt
lithium manganese nickel oxide 255063-53-7, Aluminum cobalt lithium
nickel oxide Al0.03Co0.17LiNi0.8O2 285136-11-0, Cobalt lithium manganese
titanium oxide 301334-62-3, Chromium Cobalt lithium manganese oxide
429678-65-9, Cobalt lithium magnesium manganese oxide
RL: DEV (Device component use); USES (Uses)
(polymer lithium battery with ionic
electrolyte)

IT 293-51-6D, Cyclotetrasiloxane, fluoropropyl Me derivs., polymers
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer lithium battery with ionic
electrolyte)

IT 24937-79-9, Pvdf
RL: MOA (Modifier or additive use); USES (Uses)
(binder; polymer lithium battery with ionic
electrolyte)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

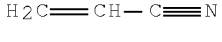
CRN 75-38-7
CMF C2 H2 F2

IT 25014-41-9, Polyacrylonitrile 25322-68-3,
Peo
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; polymer lithium battery with
ionic electrolyte)

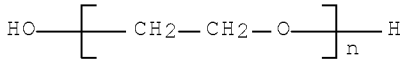
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(polymer lithium battery with ionic electrolyte)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

L82 ANSWER 19 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:413937 HCAPLUS Full-text
DN 138:404345
TI Battery structures, self-organizing structures and related methods
IN Chiang, Yet Ming; Moorehead, William Douglas; Gozdz, Antoni S.; Holman, Richard K.; Loxley, Andrew; Riley, Gilbert N.; Viola, Michael S.
PA A123systems, Inc., USA
SO U.S. Pat. Appl. Publ., 70 pp., Cont.-in-part of U.S. Ser. No. 21,740.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20030099884	A1	20030529	US 2002-206662	20020726 <--
	US 20030082446	A1	20030501	US 2001-21740	20011022 <--
	US 20040018431	A1	20040129	US 2003-354673	20030130 <--
	US 7387851	B2	20080617		
	US 20050272214	A1	20051208	US 2005-108602	20050418 <--
PRAI	US 2001-308360P	P	20010727 <--		
	US 2001-21740	A2	20011022 <--		
	US 2000-242124P	P	20001020 <--		
	US 2002-206662	A2	20020726 <--		
	US 2004-563026P	P	20040416		
	US 2004-583850P	P	20040629		

AB An energy storage device includes a first electrode comprising a first material and a second electrode comprising a second material, at least a portion of the first and second materials forming an interpenetrating network when dispersed in an electrolyte, the electrolyte, the first material and the second material are selected so that the first and second materials exert a repelling force on each other when combined. An electrochem. device, includes a first electrode in elec. communication with a first current collector; a second electrode in elec. communication with a second current collector; and an ionically conductive medium in ionic contact with the first and second electrodes, wherein at least a portion of the first and second electrodes form an interpenetrating network and wherein at least one of the first and second electrodes comprises an electrode structure providing two or more pathways to its current collector.
IC ICM H01M0004-64
ICS H01M0004-80; H01M0004-58
INCL 429233000; 429235000; 429231950; 429212000; 429231400; 429210000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery self organizing structure
IT Battery anodes
Battery cathodes

Coating process
Embossing
(battery structures, self-organizing structures and related methods)

IT Fluoropolymers, uses
Glass, uses
Polyamines
Polyimides, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures and related methods)

IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(block, Li salt-doped; battery structures, self-organizing structures and related methods)

IT Primary batteries
(lithium; battery structures, self-organizing structures and related methods)

IT Intercalation compounds
RL: DEV (Device component use); USES (Uses)
(lithium; battery structures, self-organizing structures and related methods)

IT Azines
Group VA element compounds
RL: DEV (Device component use); USES (Uses)
(phosphazines; battery structures, self-organizing structures and related methods)

IT 7439-95-4, Magnesium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(CoLiO2 doped with; battery structures, self-organizing structures and related methods)

IT 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 12042-37-4, AlLi
RL: MOA (Modifier or additive use); USES (Uses)
(LiFePO4 doped with; battery structures, self-organizing structures and related methods)

IT 7429-90-5, Aluminum, uses
RL: MOA (Modifier or additive use); USES (Uses)
(LiMnO2 doped with; battery structures, self-organizing structures and related methods)

IT 68-12-2, Dmf, uses 75-11-6, Diiodomethane 96-49-1, Ethylene carbonate 105-58-8, DiEthyl carbonate 108-32-7, Propylene carbonate 616-38-6, DimEthyl carbonate 627-31-6, 1,3-Diiodopropane 1307-96-6, Cobalt monoxide, uses 1313-13-9, Manganese dioxide, uses 1313-99-1, Nickel oxide (NiO), uses 1314-62-1, Vanadia, uses 1317-34-6, Manganese oxide mn2o3 1317-35-7, Manganese oxide mn3o4 1335-25-7, Lead oxide 1343-98-2, Silicon hydroxide 1344-43-0, Manganese oxide mno, uses 1345-25-1, Iron oxide feo, uses 7226-23-5 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-36-0, Antimony, uses 7440-42-8, Boron, uses 7440-44-0, Carbon, uses 7440-56-4, Germanium, uses 7440-66-6, Zinc, uses 7440-69-9, Bismuth, uses 7631-86-9, Silicon oxide, uses 7782-42-5, Graphite, uses 9003-53-6, Polystyrene 10043-35-3, Boric acid (H3BO3), uses 10361-43-0, Bismuth hydroxide 12002-78-7 12031-65-1, Lithium nickel oxide linio2 12037-30-8, Vanadium oxide v6o11 12048-27-0, Bili 12057-17-9, Lithium manganese oxide limn2o4 12057-22-6, LiZn 12057-30-6 12057-33-9 12063-07-9, Iron lithium oxide fe2lio4 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide colio2 12253-44-0 12338-02-2

12651-23-9, Titanium hydroxide 13463-67-7, Titanium oxide, uses
14475-63-9, Zirconium hydroxide Zr(OH)4 15365-14-7, Iron lithium
phosphate felipo4 18282-10-5, Tin dioxide 21651-19-4, Tin oxide sno
24937-79-9, Polyvinylidene fluoride
25014-41-9, Polyacrylonitrile 25322-68-3,
Peo 25322-69-4, Polypropylene oxide 37217-08-6, Lithium
titanium oxide liti2o4 39345-91-0, Lead hydroxide 53262-48-9
55575-96-7, Lithium silicide Li13Si4 55608-41-8 56627-44-2
61812-08-6, Lithium silicide Li21Si8 66403-10-9, Lithium boride Li5B4
67070-82-0 71012-86-7, Lithium boride Li7B6 74083-26-4 76036-33-4,
Lithium silicide Li12Si7 106494-93-3, Lithium silicide Li21Si5
114778-10-8, Iron lithium sulfate Fe2Li2(SO4)3 144419-56-7, Cobalt
lithium magnesium oxide Co0.95LiMg0.05O2 496816-56-9 496816-58-1, Iron
lithium zirconium phosphate Fe0.98LiZr0.02(PO4) 531493-25-1, Iron
lithium titanium phosphate (Fe0.98LiTi0.02(PO4))
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures and related
methods)

IT 99742-70-8, Poly(o-methoxyaniline) 104934-51-2, Poly(3-octylthiophene)
RL: MOA (Modifier or additive use); USES (Uses)
(battery structures, self-organizing structures and related
methods)

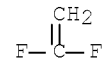
IT 1303-86-2, Boron oxide (B2O3), uses 1304-76-3, Bismuth oxide (Bi2O3),
uses 1314-23-4, Zirconium oxide, uses 1314-56-3, Phosphorus oxide
(P2O5), uses 1317-36-8, Lead oxide (PbO), uses 7447-41-8, Lithium
chloride, uses 7789-24-4, Lithium fluoride,
uses 10377-51-2, Lithium iodide 12057-24-8, Lithia, uses
RL: DEV (Device component use); USES (Uses)
(glass; battery structures, self-organizing structures and
related methods)

IT 24937-79-9, Polyvinylidene fluoride
25014-41-9, Polyacrylonitrile 25322-68-3,
Peo
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures and related
methods)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

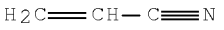
CRN 75-38-7
CMF C2 H2 F2



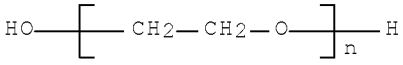
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(glass; battery structures, self-organizing structures and related methods)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 20 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:326517 HCAPLUS Full-text
DN 138:306732
TI Positive electrode material of Li-ion battery and its preparation
IN Yu, Zuolong; Chen, Zhaoyong; Liu, Xingquan
PA Chengdu Inst. of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1344038	A	20020410	CN 2000-113190	20000918 <--
PRAI CN 2000-113190		20000918 <--		

AB The pos. electrode material is Li1+xTlyMn2-yO4-zFz, where 0 <x ≤0.3, 0 <y ≤0.3, and 0 <z ≤0.3. The material is manufactured by wet grinding a mixture containing MnO2, LiOH.H2O, LiF, a salt of Tl (TlNO3, Tl acetate) or Tl hydroxide, and a dispersing agent, and roasting at roasting at 650-800° for 10-40 h. The dispersing agent is absolute ethanol, methanol, cyclohexane, or polyethylene glycol.
IC ICM H01M0004-48
ICS H01M0004-04; C01D0015-02
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium manganese thallium oxide fluoride battery pos electrode material
IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(dispersing agent; pos. electrode material of Li-ion secondary battery and its preparation)
IT Secondary batteries

(lithium; pos. electrode material of Li-ion secondary battery and its preparation)

IT Battery anodes
X-ray diffraction
(pos. electrode material of Li-ion secondary battery and its preparation)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 110-82-7, Cyclohexane, uses 25322-68-3, Polyethylene glycol
RL: NUU (Other use, unclassified); USES (Uses)
(dispersing agent; pos. electrode material of Li-ion secondary battery and its preparation)

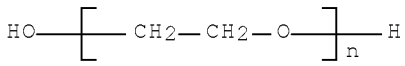
IT 507483-39-8P 507483-40-1P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(pos. electrode material of Li-ion battery and its preparation)

IT 507483-41-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(pos. electrode material of Li-ion secondary battery and its preparation)

IT 25322-68-3, Polyethylene glycol
RL: NUU (Other use, unclassified); USES (Uses)
(dispersing agent; pos. electrode material of Li-ion secondary battery and its preparation)

RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 21 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:118181 HCAPLUS Full-text

DN 138:156304

TI Battery structures, self-organizing structures, and related methods

IN Chiang, Yet-Ming; Moorehead, William Douglas; Holman, Richard K.; Viola, Michael S.; Gozdz, Antoni S.; Loxley, Andrew; Riley, Gilbert N., Jr.

PA Massachusetts Institute of Technology, USA; A123 Systems

SO PCT Int. Appl., 138 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 5

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003012908	A2	20030213	WO 2002-US23880	20020726 <--
WO 2003012908	A9	20040325		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,

CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
US 20030082446 A1 20030501 US 2001-21740 20011022 <--
CA 2455819 A1 20030213 CA 2002-2455819 20020726 <--
AU 2002330924 A1 20030217 AU 2002-330924 20020726 <--
EP 1433217 A2 20040630 EP 2002-768358 20020726 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
JP 2005525674 T 20050825 JP 2003-517975 20020726 <--
CN 1864298 A 20061115 CN 2002-818181 20020726 <--
IN 2004KN00118 A 20060407 IN 2004-KN118 20040130 <--
PRAI US 2001-308360P P 20010727 <--
US 2001-21740 A 20011022 <--
US 2000-242124P P 20001020 <--
WO 2002-US23880 W 20020726 <--

AB An energy storage device includes a first electrode comprising a first material and a second electrode comprising a second material, at least a portion of the first and second materials forming an interpenetrating network when dispersed in an electrolyte, the electrolyte, the first material and the second material are selected so that the first and second materials exert a repelling force on each other when combined. An electrochem. device, includes a first electrode in elec. communication with a first current collector; a second electrode in elec. communication with a second current collector; and an ionically conductive medium in ionic contact with the first and second electrodes, wherein at least a portion of the first and second electrodes form an interpenetrating network and wherein at least one of the first and second electrodes comprises an electrode structure providing two or more pathways to its current collector.

IC ICM H01M0010-04
ICS H01M0010-40; H01M0004-04; H01M0004-02;
H01B0009-00; G02F0001-00
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 72
ST battery structure self organizing structure
IT Phosphazenes
RL: DEV (Device component use); USES (Uses)
((methoxyethoxy)ethoxy; battery structures, self-organizing structures, and related methods)
IT Battery anodes
Battery cathodes
Conducting polymers
Embossing
Encapsulants
Ink-jet printing
Lithography
Polymer electrolytes
Primary batteries
Screen printing
(battery structures, self-organizing structures, and related methods)
IT Fluoropolymers, uses
Polyamines
Polyimides, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures, and related methods)
IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(battery structures, self-organizing structures, and related methods)

IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(battery structures, self-organizing structures, and related methods)
IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(bismuth lithium borate; battery structures, self-organizing structures, and related methods)
IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(block, lithium salt-doped, electrolyte; battery structures, self-organizing structures, and related methods)
IT Electric apparatus
(electrochem.; battery structures, self-organizing structures, and related methods)
IT Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(lithium complexes, perchlorate- or triflate-containing; battery structures, self-organizing structures, and related methods)
IT Secondary batteries
(lithium; battery structures, self-organizing structures, and related methods)
IT Composites
(nanocomposite; battery structures, self-organizing structures, and related methods)
IT Printing (nonimpact)
(stenciling; battery structures, self-organizing structures, and related methods)
IT Molding
(tape-casting; battery structures, self-organizing structures, and related methods)
IT Coating process
(web; battery structures, self-organizing structures, and related methods)
IT 7439-95-4, Magnesium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(CoLiO2 doped with; battery structures, self-organizing structures, and related methods)
IT 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses
RL: MOA (Modifier or additive use); USES (Uses)
(FeLiPO4 doped with; battery structures, self-organizing structures, and related methods)
IT 7429-90-5, Aluminum, uses
RL: MOA (Modifier or additive use); USES (Uses)
(LiMnO2 doped with; battery structures, self-organizing structures, and related methods)
IT 68-12-2, n,n-Dimethylformamide, uses 75-11-6, Diiodomethane 96-49-1, Ethylene carbonate 105-58-8, DiEthyl carbonate 108-32-7, Propylene carbonate 616-38-6, DimEthyl carbonate 627-31-6, 1,3-Diiodopropane 1307-96-6, Cobalt oxide coo, uses 1313-13-9, Manganese oxide mno2, uses 1313-99-1, Nickel oxide nio, uses 1314-23-4, Zirconium oxide, uses 1314-62-1, Vanadia, uses 1317-34-6, Manganese oxide mn2o3 1317-35-7, Manganese oxide mn3o4 1335-25-7, Lead oxide 1344-43-0, Manganese oxidemno, uses 1345-25-1, Iron oxide feo, uses 7226-23-5 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-36-0, Antimony, uses 7440-42-8, Boron, uses 7440-44-0, Carbon, uses 7440-56-4, Germanium, uses 7440-66-6, Zinc, uses 7440-69-9, Bismuth, uses 7782-42-5, Graphite, uses 9002-84-0, Ptfe 9003-53-6,

Polystyrene 10361-43-0, Bismuth hydroxide 12002-78-7 12031-65-1, Lithium nickel oxide linio2 12037-30-8, Vanadium oxide v6o11 12042-37-4, Alli 12048-27-0, Bili 12057-17-9, Lithium manganese oxide limn2o4 12057-22-6, Lizn 12057-30-6 12057-33-9 12063-07-9, Iron lithium oxide fe2lio4 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide colio2 12253-44-0 12338-02-2 12651-23-9, Titanium hydroxide 13463-67-7, Titanium oxide, uses 14475-63-9, Zirconium hydroxide 15365-14-7, Iron lithium phosphate felipo4 18282-10-5, Tin dioxide 21324-40-3, Lithium hexafluorophosphate 21651-19-4, Tin oxide sno 24937-79-9, Polyvinylidene fluoride 25014-41-9, Polyacrylonitrile 25322-68-3, Peo 25322-69-4, Polypropylene oxide 37217-08-6, Lithium titanium oxide liti2o4 39345-91-0, Lead hydroxide 50851-57-5 53262-48-9 53640-36-1 55575-96-7, Lithium silicide Li13Si4 55608-41-8 56627-44-2 61812-08-6, Lithium silicide Li21Si8 66403-10-9, Lithium boride (Li5B4) 67070-82-0 71012-86-7, Lithium boride (Li7B6) 74083-26-4 76036-33-4, Lithium silicide Li12Si7 98973-15-0, MEEP 106494-93-3, Lithium silicide Li21Si5 126213-51-2, Poly(3,4-ethylenedioxythiophene) 144419-56-7, Cobalt lithium magnesium oxide Co0.95LiMg0.05O2 496816-56-9 496816-57-0, Cobalt lithium magnesium oxide (Co0.95Li0.95Mg0.05O1.9) 496816-58-1, Iron lithium zirconium phosphate (Fe0.98LiZr0.02(PO4))
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures, and related methods)

IT 76-05-1, Trifluoroacetic acid, uses 104-15-4, Toluene sulfonic acid, uses 7647-01-0, Hydrochloric acid, uses 57534-41-5, Zonyl FSN
RL: MOA (Modifier or additive use); USES (Uses)
(battery structures, self-organizing structures, and related methods)

IT 9002-88-4, Polyethylene 11099-11-9, Vanadium oxide 25038-59-9, Mylar, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(battery structures, self-organizing structures, and related methods)

IT 99742-70-8, Poly(o-methoxyaniline) 104934-51-2, Poly(3-octylthiophene)
RL: TEM (Technical or engineered material use); USES (Uses)
(coating; battery structures, self-organizing structures, and related methods)

IT 7440-50-8, Copper, uses
RL: DEV (Device component use); USES (Uses)
(current collector; battery structures, self-organizing structures, and related methods)

IT 7791-03-9, Lithium perchlorate 33454-82-9, Lithium triflate
RL: MOA (Modifier or additive use); USES (Uses)
(electrolyte, cog. polyethylene oxide; battery structures, self-organizing structures, and related methods)

IT 1303-86-2, Boron oxide b2o3, uses 1304-76-3, Bismuth oxide bi2o3, uses 1314-56-3, Phosphorus pentoxide, uses 1317-36-8, Lead oxide pbo, uses 7447-41-8, Lithium chloride, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 10377-51-2, Lithium iodide 12057-24-8, Lithia, uses
RL: DEV (Device component use); USES (Uses)
(glass; battery structures, self-organizing structures, and related methods)

IT 7439-93-2D, Lithium, polyethylene oxide complexes 25322-68-3D, Peo, lithium complexes
RL: MOA (Modifier or additive use); USES (Uses)
(perchlorate- or triflate-containing; battery structures,

self-organizing structures, and related methods)

IT 24937-79-9, Polyvinylidene fluoride
25014-41-9, Polyacrylonitrile 25322-68-3,
Peo
RL: DEV (Device component use); USES (Uses)
(battery structures, self-organizing structures, and related methods)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

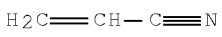
CM 1

CRN 75-38-7
CMF C2 H2 F2

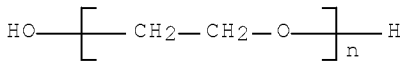
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)

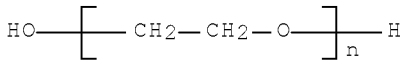


IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(glass; battery structures, self-organizing structures, and related methods)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 25322-68-3D, Peo, lithium complexes
RL: MOA (Modifier or additive use); USES (Uses)
(perchlorate- or triflate-containing; battery structures, self-organizing structures, and related methods)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 22 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:96475 HCAPLUS Full-text
DN 138:109652
TI Anode for rechargeable battery including lithium or lithium alloy as an active material
IN Mori, Mitsuhiro; Yamamoto, Hironori; Utsugi, Koji; Iriyama, Jiro; Miura, Tamaki; Miyachi, Mariko
PA NEC Corporation, Japan
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1282179	A2	20030205	EP 2002-17241	20020731 <--
EP 1282179	A3	20050629		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2003045415	A	20030214	JP 2001-232716	20010731 <--
US 20030036000	A1	20030220	US 2002-208962	20020731 <--
US 6777134	B2	20040817		
CN 1400680	A	20030305	CN 2002-142920	20020731 <--
PRAI JP 2001-232716	A	20010731 <--		

AB A neg. electrode for a rechargeable battery includes: a current collector, a first layer containing a conductive material to occlude and release lithium ion, the first layer formed on the current collector, a second layer containing a metal selected from lithium and lithium alloy, the second layer formed on the first layer, and a third layer containing a lithium ion conductive material, the third layer formed on the second layer. The third layer prevents the lithium and/or the lithium alloy in the second layer from being in contact with the electrolyte and smoothly feeds the lithium to the second layer to improve the efficiency of the neg. electrode. The first layer can occlude and release the part of the lithium to be occluded and released, thereby reducing the volume change of the second layer. Such a structure of the neg. electrode enables us to enhance cycling efficiency, and to attain long cycle life and good safety.

IC ICM H01M0004-02
ICS H01M0004-36; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST anode lithium secondary battery; safety anode lithium secondary battery
IT Battery anodes
Conducting polymers
Evaporation
Sputtering
(anode for rechargeable battery including lithium or lithium alloy as active material)
IT Carbonaceous materials (technological products)
Polyacetylenes, uses

RL: DEV (Device component use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

IT Vapor deposition process
(chemical; anode for rechargeable battery including lithium or lithium alloy as active material)

IT Sol-gel processing
(coating; anode for rechargeable battery including lithium or lithium alloy as active material)

IT Alkali metal halides, uses
RL: DEV (Device component use); USES (Uses)
(lithium halides; anode for rechargeable battery including lithium or lithium alloy as active material)

IT Secondary batteries
(lithium; anode for rechargeable battery including lithium or lithium alloy as active material)

IT Coating process
(sol-gel; anode for rechargeable battery including lithium or lithium alloy as active material)

IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

IT 7440-44-0, Carbon, uses 12057-24-8, Lithium oxide, uses 12136-58-2, Lithium sulfide
RL: DEV (Device component use); USES (Uses)
(amorphous; anode for rechargeable battery including lithium or lithium alloy as active material)

IT 554-13-2, Lithium carbonate 7439-93-2, Lithium, uses 7440-50-8, Copper, uses 7782-42-5, Graphite, uses 7789-24-4, Lithium fluoride, uses 12798-95-7 25067-58-7, Polyacetylene 25233-34-5, Polythiophene 37347-47-0, Phosphorus sulfide p2s6 53680-59-4 68848-64-6
RL: DEV (Device component use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

IT 24937-79-9, Pvdf
RL: MOA (Modifier or additive use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

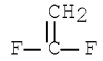
F—Li

IT 24937-79-9, Pvdf
RL: MOA (Modifier or additive use); USES (Uses)
(anode for rechargeable battery including lithium or lithium alloy as active material)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2

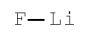


L82 ANSWER 23 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:976205 HCAPLUS Full-text
DN 138:58923
TI Secondary lithium battery and its manufacture
IN Mori, Mitsuhiro; Utsugi, Koji; Yamamoto, Hiroki; Iriyama, Jiro; Miura, Tamaki
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002373707	A	20021226	JP 2001-180710	20010614 <--
US 20030003364	A1	20030102	US 2002-170702	20020614 <--
CN 1392624	A	20030122	CN 2002-123303	20020614 <--
PRAI JP 2001-180710	A	20010614 <--		

AB The battery has an amorphous Li or Li alloy anode film on a Li+ supporting sheet. The sheet may be a polymer electrolyte, a carbonaceous material, or a Li halide, and may be porous. The battery is prepared by using the anode.
IC ICM H01M0010-40
ICS H01M0004-02; H01M0004-40; H01M0004-62
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery amorphous lithium anode ion conductive support
IT Battery anodes
(secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
IT Fluoropolymers, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(diamond structured; secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
IT 9002-88-4, Polyethylene
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(porous; secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
IT 7439-93-2, Lithium, uses 7789-24-4, Lithium fluoride, uses 24937-79-9, Poly(vinylidene fluoride)

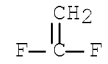
159076-65-0, Lithium phosphorus silicon oxide sulfide
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
IT 7789-24-4, Lithium fluoride, uses
24937-79-9, Poly(vinylidene fluoride)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(secondary lithium batteries with anodes containing amorphous lithium on lithium ion supports and their manufacture)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 24 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:928096 HCAPLUS Full-text
DN 138:6480
TI Method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer
IN Cho, Chung-kun; Seung, Do-young
PA Samsung SDI Co., Ltd., S. Korea
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 20020182488	A1	20021205	US 2002-157186	20020530	<--
	US 6835492	B2	20041228			
	KR 2002091748	A	20021206	KR 2001-61044	20010929	<--
	CN 1389940	A	20030108	CN 2002-120391	20020524	<--
	JP 2003036842	A	20030207	JP 2002-152852	20020527	<--
	JP 3989303	B2	20071010			
PRAI	KR 2001-30516	A	20010531	<--		
	KR 2001-61044	A	20010929	<--		

AB A method for forming a lithium anode protective layer comprises activating the surface of the lithium metal anode and forming a LiF protective layer on the activated surface of the lithium metal anode.
IC ICM H01M0002-16

ICS B05D0005-12; H01M0004-40
INCL 429137000; 429231950; 427126100
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery anode protective layer
IT Ethers, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(cyclic, fluorinated; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Etching
(electrochem.; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Zeolites (synthetic), uses
RL: MOA (Modifier or additive use); USES (Uses)
(filler; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Secondary batteries
(lithium; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Battery anodes
Etching
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Fluoropolymers, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT Etching
(plasma; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT 7631-86-9, Fumed silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(colloidal, filler; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT 1344-28-1, Alumina, uses 13463-67-7, Titania, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filler; method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT 9002-83-9, Polychlorotrifluoroethylene 9002-84-0, Ptfe 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
IT 75-73-0, Tetrafluoromethane 76-16-4, Hexafluoroethane

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)

IT 7439-93-2, Lithium, uses
RL: DEV (Device component use); USES (Uses)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)

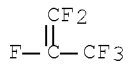
IT 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)

IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

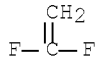
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

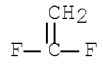
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



IT 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(method for forming lithium anode protective layer for lithium battery and lithium battery having such protective layer)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 25 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:792808 HCAPLUS Full-text
DN 137:313506
TI Manufacture of solid polymer electrolyte, and secondary lithium battery using it
IN Uemura, Ryuzo; Takahashi, Yukinori; Hamada, Kenji; Osawa, Yasuhiko
PA Nissan Motor Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002305028	A	20021018	JP 2001-106308	20010404 <--
PRAI JP 2001-106308		20010404 <--		

AB The solid polymer electrolyte for secondary Li batteries is manufactured by polymerization or mixing of polymerizable functional group-terminated copolyether or copolyester with F-containing Li compds. with ionization potential by HOMO Ip/eV 6-9. The battery using the above electrolyte shows high charge-discharge efficiency and safety.
IC ICM H01M0010-40
ICS H01M0004-02; H01M0004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST safety solid polymer electrolyte lithium battery; polyester polyoxyalkylene solid electrolyte lithium fluoride battery
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(acrylic; manufacture of solid polymer electrolyte for secondary lithium battery)
IT Secondary batteries
(lithium; manufacture of solid polymer electrolyte for secondary lithium battery)
IT Polymer electrolytes
(manufacture of solid polymer electrolyte for secondary lithium battery)
IT Polyesters, uses

RL: DEV (Device component use); USES (Uses)
(manufacture of solid polymer electrolyte for secondary lithium battery)

IT 33454-82-9 37217-08-6, Lithium titanium oxide (LiTi2O4) 90076-65-6 131651-65-5
RL: DEV (Device component use); USES (Uses)
(manufacture of solid polymer electrolyte for secondary lithium battery)

IT 258327-46-7P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manufacture of solid polymer electrolyte for secondary lithium battery)

L82 ANSWER 26 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:781969 HCAPLUS Full-text
DN 138:109509
TI Synthesis and Study of New Cyclic Boronate Additives for Lithium Battery Electrolytes
AU Lee, H. S.; Sun, X.; Yang, X. Q.; McBreen, J.
CS Brookhaven National Laboratory, Upton, NY, 11973, USA
SO Journal of the Electrochemical Society (2002), 149(11), A1460-A1465
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB Two novel boronate compds., 2-(pentafluorophenyl)-tetrafluoro-1,3,2-benzodioxaborole (1) and 2-(pentafluorophenyl)-4,4,5,5-tetrakis(trifluoromethyl)-1,3,2-dioxaborolane (2), were synthesized as additives for lithium battery electrolytes. These cyclic boronate compds. have a much more significant effect on conductivity enhancement of LiF salt in dimethoxyethane (DME) or Et carbonate-dimethyl carbonate (EC-DMC) than either borane or borate additives the authors previously synthesized. The conductivity of a composite electrolyte containing compound 1 and LiF has reached 9.54 + 10-3 S/cm in DME and 4.79 + 10-3 S/cm in EC-DMC (1:2). This is due to the lower mol. weight and less steric hindrance effects of compound 1. In the case of compound 2, the enhanced performance also comes from the improved solubility in polar solvents. Composite electrolytes containing LiF and either compound 1 or compound 2 have excellent electrochem. stability in the EC-DMC solvent, with resp. electrochem. windows of 4.05 and 5.1 V. The composite electrolyte containing LiF and compound 2 shows high cycling efficiency and cyclability in both Li/LiMn2O4 and Li/LiNi0.8Co0.2O2 cells.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST cyclic fluorinated borate borane additive lithium battery nonaq electrolyte
IT Carbon black, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(composite electrode with Kynar 2801 and LiMn2O4 or LiNi0.85Co0.15O2; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)
IT Secondary batteries
(lithium; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)
IT Battery electrolytes
Cyclic voltammetry
Electric conductivity
Electric impedance
(synthesis and study of new cyclic boronate additives for lithium

battery electrolytes)

IT Borates
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 7439-93-2, Lithium, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(anode; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 143623-51-2, Cobalt lithium nickel oxide (Co0.15LiNi0.85O2) 171088-91-8, Lithium manganese oxide (Li1.04Mn2O4)
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(composite electrode with Kynar 2801 and carbon black, cathode; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 9011-17-0, Kynar 2801
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(composite electrode with carbon black and LiMn2O4 or LiNi0.85Co0.15O2; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 616-38-6, Dimethyl carbonate
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with Et carbonate, LiF, and perfluoroborol and perfloroborolane compds.; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 365458-36-2P 365458-40-8P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electrolyte blends with LiF and dimethoxyethene or Et carbonate/dimethyl carbonate blends; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 110-71-4
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with LiF and perfluoroborol and perfloroborolane compds.; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 105-58-8, Ethyl carbonate
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with di-Me carbonate, LiF, and perfluoroborol and perfloroborolane compds.; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 1109-15-5, Tris(pentafluorophenyl)borane 6919-80-8
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with dimethoxyethene and LiF; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 7789-24-4, Lithium fluoride (LiF),
uses

RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with dimethoxyethene or Et carbonate/dimethyl carbonate blends and perfluoroborol and perfloroborolane compds.; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(foil, coated with electrode composite mixture; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 344-04-7, Bromopentafluorobenzene 918-21-8, Perfluoropinacol 1066-45-1, Trimethyltin chloride 1582-24-7, Pentafluorophenylboronic acid 1996-23-2, 3,4,5,6-Tetrafluorocatechol 7439-95-4, Magnesium, reactions 10294-34-5, Boron trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

IT 830-48-8P, Dichloropentafluorophenylborane 1015-53-8P, Pentafluorophenyltrimethyltin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

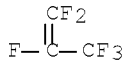
IT 9011-17-0, Kynar 2801
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(composite electrode with carbon black and LiMn2O4 or LiNi0.85Co0.15O2; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)

RN 9011-17-0 HCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

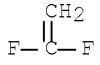
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



IT 7789-24-4, Lithium fluoride (LiF), uses

RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(electrolyte blends with dimethoxyethene or Et carbonate/dimethyl carbonate blends and perfluoroborol and perfloroborolane compds.; synthesis and study of new cyclic boronate additives for lithium battery electrolytes)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 27 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:671916 HCAPLUS Full-text
DN 137:217076
TI Preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries
IN Schmidt, Michael; Kuehner, Andreas; Ignatyev, Nikolai; Satori, Peter
PA Merck Patent G.m.b.H., Germany
SO Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1236732	A1	20020904	EP 2002-1914	20020131 <--
	EP 1236732	B1	20050413		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	DE 10109032	A1	20020905	DE 2001-10109032	20010224 <--
	JP 2003034692	A	20030207	JP 2001-301156	20010928 <--
	TW 527740	B	20030411	TW 2001-90133110	20011231 <--
	AT 293117	T	20050415	AT 2002-1914	20020131 <--
	CN 1371911	A	20021002	CN 2002-105228	20020221 <--
	BR 2002000465	A	20021029	BR 2002-465	20020221 <--
	CA 2372751	A1	20020824	CA 2002-2372751	20020222 <--
	US 20020122979	A1	20020905	US 2002-80515	20020225 <--
	US 6893774	B2	20050517		
PRAI	DE 2001-10109032	A	20010224 <--		

OS CASREACT 137:217076; MARPAT 137:217076
AB The preparation of title compds., useful as electrolytes for primary and secondary batteries, is described. Thus, reaction of LiF with perfluoro-1,2-bis(diethyldifluorophosphorano)ethane in a mixture of ethylene carbonate/dimethyl carbonate/diethyl carbonate (solvent mixture) gave the title compound, 2Li+[(C2F5)2PF3(CF2)2PF3(C2F5)]2-, as a mixture of stereoisomers. The oxidation stability of the compound prepared is given.
IC ICM C07F0009-28
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72
ST fluoroalkyl phosphate salt prepn oxidn stability battery electrolyte
IT Superconductor devices
(capacitors; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)

IT Battery electrolytes
Capacitors
Electrolytes
(preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT Esters, uses
Ethers, uses
Fluoropolymers, uses
Polyphosphazenes
Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT Secondary batteries
(primary and; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT Oxidation
(stability; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT Capacitors
(superconducting; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT 454458-13-0P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(oxidation stability; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT 403699-22-9P 454458-15-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with fluorinated phosphorus compds.)
IT 91543-32-7, Tris(pentafluoroethyl)difluorophosphorane 454468-19-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with lithium fluoride)
IT 60-29-7, Diethyl ether, uses 67-64-1, Acetone, uses 67-68-5, DMSO, uses 68-12-2, DMF, uses 75-05-8, Acetonitrile, uses 75-18-3, Dimethyl sulfide 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 107-13-1, Acrylonitrile, uses 107-31-3, Methyl formate 108-32-7, Propylene carbonate 109-94-4, Ethyl formate 110-71-4 127-19-5, Dimethylacetamide 141-78-6, Ethyl acetate, uses 352-93-2, Diethyl sulfide 554-12-1, Methyl propionate 598-03-8 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 4437-85-8, Butylene carbonate 56525-42-9, Methyl propyl carbonate, uses 73506-93-1, Diethoxyethane
RL: NUU (Other use, unclassified); USES (Uses)
(solvent electrolyte; preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)
IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with fluorinated phosphorus compds.)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 28 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:595200 HCAPLUS Full-text
DN 137:143066
TI A multi-layered, UV-cured polymer electrolyte for lithium secondary battery
IN Yun, Kyung-Suk; Cho, Byung-Won; Cho, Won-Il; Kim, Hyung-Sun; Kim, Un-Sek; Rhee, Hee-Woo; Kim, Yong-Tae
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002061874	A1	20020808	WO 2001-KR133	20010131 <--
	W: JP, KR, US				
	US 20030180623	A1	20030925	US 2003-275383	20030522 <--
	US 7135254	B2	20061114		
PRAI	WO 2001-KR133	W	20010131 <--		

AB The present invention relates to a multi-layered, UV-cured polymer electrolyte and lithium secondary battery comprising the same, wherein the polymer electrolyte comprises: (A) a separator layer formed of polymer electrolyte, PP, PE, PVdF or non-woven fabric, wherein the separator layer having two surfaces; (B) at least one gelled polymer electrolyte layer located on at least one surface of the separator layer comprising: (a) polymer obtained by curing ethyleneglycoldi(meth)acrylate oligomer of the formula by UV irradiation: CH2=CR1COO(CH2CH2O)nCOCR2=CH2 wherein, R1 and R2 are independently hydrogen or Me group, and n is a integer of 3-20; and (b) at least one polymer selected from the group consisting of PVdF-based polymer, PAN-based polymer, PMMA-based polymer and PVC-based polymer; and (C) organic electrolyte solution in which lithium salt is dissolved in a solvent.
IC ICM H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium secondary battery UV cured polymer electrolyte
IT Secondary batteries
(lithium; multilayered, UV-cured polymer electrolyte for lithium secondary battery)
IT Battery electrolytes
Polymer electrolytes
(multilayered, UV-cured polymer electrolyte for lithium secondary battery)
IT Coke
Fluoropolymers, uses
Polymer blends
RL: DEV (Device component use); USES (Uses)
(multilayered, UV-cured polymer electrolyte for lithium secondary battery)
IT Crosslinking

(photochem.; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT Fluoropolymers, uses
Polymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 102-71-6, Triethanolamine, uses 102-82-9, Tributylamine 103-83-3, n-Benzyldimethylamine 121-44-8, Triethylamine, uses
RL: MOA (Modifier or additive use); USES (Uses)
(UV curing accelerator; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 84-51-5, 2-EthylAnthraquinone 84-65-1, Anthraquinone 93-97-0, Benzoyl benzoate 119-61-9, Benzophenone, uses 120-51-4, Benzyl benzoate 131-09-9, 2-ChloroAnthraquinone 492-22-8, Thioxanthone 574-09-4, Ethyl benzoin ether 947-19-3, 1-Hydroxycyclohexyl phenyl ketone 2648-61-5 3524-62-7 5293-97-0, 2,2'-Dichlorobenzophenone 6175-45-7, 2,2-Diethoxyacetophenone 6652-28-4, Isopropyl benzoin ether 6652-29-5, Benzoin phenyl ether 7473-98-5, 2-Hydroxy-2-methyl-1-phenylpropane-1-one 7624-24-0 7727-54-0, Ammonium persulfate 24650-42-8, 2,2-Dimethoxy-2-phenylacetophenone 72896-34-5, Chlorothioxanthone 75081-21-9, Isopropyl thioxanthone
RL: MOA (Modifier or additive use); USES (Uses)
(UV curing initiator; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(hard; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 1314-62-1, Vanadium pentoxide, uses 1332-29-2, Tin oxide 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9003-00-3, Acrylonitrile-vinyl chloride copolymer 9003-07-0, Polypropylene 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Kynar 2801 9056-77-3, Poly(ethylene glycol methacrylate) 12031-65-1, Lithium nickel oxide linio2 12037-42-2, Vanadium oxide v6o13 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 24968-79-4, Acrylonitrile-methylacrylate copolymer 25014-41-9, Polyacrylonitrile 25086-15-1, Methacrylic acid-methyl methacrylate copolymer 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6 162004-08-2, Cobalt lithium nickel oxide colinio2
RL: DEV (Device component use); USES (Uses)
(multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 554-13-2 1304-28-5, Baria, uses 1309-48-4, Magnesia, uses 1310-65-2,

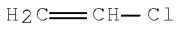
Lithium hydroxide (Li(OH)) 1313-59-3, Sodium oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride (Li3N)
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; multilayered, UV-cured polymer electrolyte for lithium secondary battery)

IT 9002-86-2, Polyvinyl chloride
9011-17-0, Kynar 2801 24937-79-9, Pvdf
25014-41-9, Polyacrylonitrile
RL: DEV (Device component use); USES (Uses)
(multilayered, UV-cured polymer electrolyte for lithium secondary battery)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

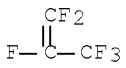
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



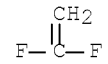
CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; multilayered, UV-cured polymer electrolyte for lithium secondary battery)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 29 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:595199 HCAPLUS Full-text
DN 137:143065
TI Fabrication of lithium secondary battery with a UV-cured multi-component polymer blend electrolyte
IN Cho, Byung-Won; Cho, Won-Il; Kim, Hyung-Sun; Kim, Un-Sek; Rhee, Hee-Woo; Kim, Yong-Tae; Song, Min-Kyu
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002061873	A1	20020808	WO 2001-KR130	20010131 <--
W: JP, KR, US				
US 20050221194	A1	20051006	US 2003-275384	20030522 <--
US 7097943	B2	20060829		
PRAI WO 2001-KR130	W	20010131 <--		

AB The present invention relates to a UV-cured multi-component polymer blend electrolyte, lithium secondary battery and their fabrication method, wherein

the UV-cured multi-component polymer blend electrolyte, comprises: (A) function-I polymer obtained by curing ethylene glycol dimethacrylate oligomer of formula by UV irradiation, CH2=CR1COO(CH2CH2O)nCOCR2=CH2 wherein, R1 and R2 are independently a hydrogen or Me group, and n is an integer of 3-20; (B) function-II polymer selected from the group consisting of PAN-based polymer, PMMA-based polymer and mixts. thereof; (C) function-III polymer selected from the group consisting of PVdF-based polymer, PVC-based polymer and mixts. thereof; and (D) organic electrolyte solution in which lithium salt is dissolved in a solvent.

IC ICM H01M0010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST lithium secondary battery fabrication UV cured polymer blend electrolyte

IT Battery electrolytes
Polymer electrolytes
(fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Coke
Polymer blends
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Polymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Secondary batteries
(lithium; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Crosslinking
(photochem.; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT 84-51-5, 2-EthylAnthraquinone 84-65-1, Anthraquinone 93-97-0, Benzoyl benzoate 119-61-9, Benzophenone, uses 120-51-4, Benzyl benzoate 131-09-9, 2-Chloroanthraquinone 492-22-8, Thioxanthone 574-09-4, Ethyl benzoin ether 947-19-3, 1-Hydroxycyclohexyl phenyl ketone 2648-61-5 5293-97-0, 2,2'-Dichlorobenzophenone 6175-45-7, 2,2-Diethoxyacetophenone 6652-29-5, Benzoin phenyl ether 7473-98-5, 2-Hydroxy-2-methyl-1-phenylpropane-1-one 7624-24-0 7727-54-0, Ammonium persulfate 24650-42-8, 2,2-Dimethoxy-2-phenylacetophenone 72896-34-5, Chlorothioxanthone 75081-21-9, Isopropyl thioxanthone
RL: MOA (Modifier or additive use); USES (Uses)
(UV curing initiator; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl

carbonate 1314-62-1, Vanadia, uses 1332-29-2, Tin oxide 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Polyvinyl chloride 9003-00-3, Acrylonitrile-vinyl chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Kynar 2801 12031-65-1, Lithium nickel oxide linio2 12037-42-2, Vanadium oxidev6o13 12057-17-9, Lithium manganese oxide limn2o4 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24968-79-4, Acrylonitrile-methylacrylate copolymer 25014-41-9, Polyacrylonitrile 25086-15-1, Methacrylic acid-methyl methacrylate copolymer 26570-48-9, Polyethylene glycol diacrylate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6 162004-08-2, Cobalt lithium nickel oxide colinio2
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(hard; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

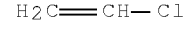
IT 554-13-2 1304-28-5, Barium oxide (BaO), uses 1309-48-4, Magnesium oxide (MgO), uses 1310-65-2, Lithium hydroxide (Li(OH)) 1313-59-3, Sodium oxide (Na2O), uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride (Li3N)
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

IT 9002-86-2, Polyvinyl chloride 9011-17-0, Kynar 2801 25014-41-9, Polyacrylonitrile
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

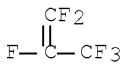
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



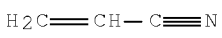
CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(porous filler; fabrication of lithium secondary battery with UV-cured multi-component polymer blend electrolyte)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 30 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:405811 HCAPLUS Full-text
DN 136:404263
TI Hybrid solar cells with thermally deposited semiconductive oxide layer
IN Nelles, Gabrielle; Yasuda, Akio; Schmidt, Hans-Werner; Thelakkat, Mukundan; Schmitz, Christoph
PA Sony International (Europe) Gmbh, Germany
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1209708	A1	20020529	EP 2000-125784	20001124 <--
	EP 1209708	B1	20070117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	US 20020117201	A1	20020829	US 2001-989848	20011121 <--
	US 6706962	B2	20040316		
	US 20040168718	A1	20040902	US 2004-799257	20040312 <--
	US 20060008580	A1	20060112	US 2005-32326	20050110 <--
	US 20080053525	A1	20080306	US 2007-782969	20070725 <--
PRAI	EP 2000-125784	A	20001124 <--		
	US 2001-989848	A1	20011121 <--		
	US 2004-799257	A2	20040312		

AB The invention is related to a process for fabricating organic hybrid solar cells in which the semiconductive oxide layer (SOL) of the organic hybrid cell is vapor deposited. The addnl. layer of SOL enhances the electron transport to the anode and therefore increases the efficiency of the hybrid organic solar cell according to the invention in comparison with all organic thin layer solar cells. The present method provides a solar cell which is both inexpensive to produce, sufficiently efficient as to be promising in view of future terrestrial applications and can further be produced on flexible substrates.

IC ICM H01G0009-20
ICS H01L0051-20

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST solar cell thermally deposited semiconductive oxide layer

IT Aromatic hydrocarbons, uses
RL: DEV (Device component use); USES (Uses)
(alkyl; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Amines, uses
RL: DEV (Device component use); USES (Uses)
(diamines, aromatic; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(foils, substrate; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Electric contacts
Solar cells
Vapor deposition process
(hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Polyamides, uses
Polyanilines
Polyphosphazenes
Polysilanes
Porphyrins
Silazanes
RL: DEV (Device component use); USES (Uses)
(hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Amines, uses
RL: DEV (Device component use); USES (Uses)
(phospha-, derivs.; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Glass, uses
Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(substrate; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT Amines, uses
RL: DEV (Device component use); USES (Uses)
(triamines; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 1332-29-2, Tin oxide
RL: DEV (Device component use); USES (Uses)
(F-doped; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 498-66-8, Norbornene
RL: TEM (Technical or engineered material use); USES (Uses)
(foils, substrate; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 574-93-6, Phthalocyanine
RL: DEV (Device component use); USES (Uses)
(hole transport material; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 86-74-8D, Carbazole, derivs. 94-41-7D, Chalcone, amino-substituted 101-60-0, Porphyrin 110-02-1, Thiophene 147-14-8, Copper phthalocyanine 288-42-6D, Oxazole, derivs. 486-25-9D, Fluorenone, derivs. 588-59-0D, Stilbene, compds. 603-34-9, Triphenylamine 603-34-9D, Triphenylamine, derivs. 1047-16-1D, Quinacridone, compds. 1065-80-1, Hexabenzocoronene 1309-64-4, Antimony oxide (Sb2O3), uses 1314-13-2, Zinc oxide, uses 1317-36-8, Lead oxide (PbO), uses 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-57-5, Gold, uses 7440-70-2, Calcium, uses 7789-24-4, Lithium fluoride, uses 12798-95-7 13463-67-7, Titania, uses 13598-78-2D, Silanamine, derivs. 25067-59-8D, Polyvinylcarbazole, compds. 25233-30-1, Polyaniline 25233-34-5, Polythiophene 36118-45-3D, Pyrazoline, derivs. 37271-44-6 37306-44-8D, Triazole, derivs. 50926-11-9, Ito 62896-28-0 75429-11-7D, derivs. 78099-29-3, 4-Vinyltriphenylamine, homopolymer 89114-75-0
RL: DEV (Device component use); USES (Uses)
(hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 81-33-4 84-65-1, Anthraquinone 128-69-8, Perylenetetracarboxylic anhydride 188-72-7, Terrylene 198-55-0D, Perylene, substituted 1047-16-1, Quinacridone 26201-32-1, Titanyl phthalocyanine 33955-44-1, 1H-Perylo[3,4-cd]pyridine-1,3(2H)-dione 95270-88-5, Polyfluorene 431062-99-6 431063-01-3
RL: MOA (Modifier or additive use); USES (Uses)
(hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 18282-10-5, Tin dioxide
RL: TEM (Technical or engineered material use); USES (Uses)
(metal foils coated with, substrate; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 9020-32-0 9020-73-9, Poly(ethylene naphthalate) 12597-68-1, Stainless steel, uses 25038-59-9, Polyethylene terephthalate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 7782-41-4, Fluorine, uses
RL: MOA (Modifier or additive use); USES (Uses)
(tin oxide doped with; hybrid solar cells with thermally deposited semiconductive oxide layer)

IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(hybrid solar cells with thermally deposited semiconductive

oxide layer)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 31 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:393190 HCAPLUS Full-text
DN 137:250174
TI Tin alloy-graphite composite anode for lithium-ion batteries
AU Ulus, A.; Rosenberg, Yu.; Burstein, L.; Peled, E.
CS School of Chemistry, Tel-Aviv University, Tel Aviv-Jaffa, 69978, Israel
SO Journal of the Electrochemical Society (2002), 149(5), A635-A643
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB A composite anode material was prepared that contains nanosize (<100 nm) particles of tin alloy Sn65Sb18Cu17 and Sn62Sb21Cu17. The alloys were electroplated at high current densities (above iL) from aqueous solns., directly onto the copper current collector, and were coated by a polyvinylidene fluoride-graphite matrix at a ratio of alloy:graphite matrix 70:30 and 80:20 weight/weight, resp. The processes involved in electrode production by this method are inexpensive, simple, and fast. Over 40 (100% depth of discharge) cycles were demonstrated, in half-cell, and over 30 were demonstrated with a LiCoO2 battery containing 1 M LiPF6 ethylene carbonate-diethyl carbonate electrolyte. The faradaic efficiency (QDe-ins/QIns) is less than 100%. Lithium is fully deinserted from the host matrix only when the anode is cycled at low current densities. The kinetics of lithium insertion to and deinsertion from the composite anode material, slow gradually as the cycle number increases. X-ray diffraction patterns of the anode material show that the alloy becomes amorphous during cycling, while the graphite does not. X-ray photoelectron-spectroscopy measurements reveal that the solid electrolyte interphase consists of mainly LiF, small amts. of Li2O, and possibly, polymeric substances. The electrochem. behavior of the alloy changes with cycle number, while that of the graphite does not. The fall of the deinsertion capacity of the graphite from the first cycle to the 34th by more than 50% proves that the active material in the anode suffers from particle-to-particle break off.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 56
ST lithium secondary battery anode material
IT Secondary batteries
(lithium; tin alloy-graphite composite anode for lithium-ion batteries)
IT Battery anodes
(tin alloy-graphite composite anode for lithium-ion batteries)
IT 7782-42-5, Graphite, uses 460061-94-3 460061-95-4
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(tin alloy-graphite composite anode for lithium-ion batteries)
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 32 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:364136 HCAPLUS Full-text
DN 136:388473
TI Perfluoroalkyl phosphate salt, organic solvent, and polymer mixtures as electrolytes
IN Schmidt, Michael; Ott, Frank; Jungnitz, Michael; Ignatyev, Nicolai; Kuehner, Andreas
PA Merck Patent GmbH, Germany
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1205998	A2	20020515	EP 2001-124178	20011011 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	DE 10055812	A1	20020523	DE 2000-10055812	20001110 <--
	DE 10058264	A1	20020529	DE 2000-10058264	20001123 <--
	CA 2361205	A1	20020510	CA 2001-2361205	20011105 <--
	TW 567205	B	20031221	TW 2001-90127554	20011106 <--
	CN 1353134	A	20020612	CN 2001-137868	20011109 <--
	US 20020114996	A1	20020822	US 2001-986773	20011109 <--
	US 6794083	B2	20040921		
	BR 2001005142	A	20020625	BR 2001-5142	20011112 <--
	JP 2002249670	A	20020906	JP 2001-346335	20011112 <--
PRAI	DE 2000-10055812	A	20001110 <--		
	DE 2000-10058264	A	20001123 <--		

OS MARPAT 136:388473
AB Electrolytes for batteries, condensers, supercondensers, and galvanic cells consist of: (1) a fluoroalkyl phosphate salt of general formula Mn+ ([PFx(CyF2y+1-zHz)6-x]-)n in which Mn+ is a monovalent, divalent, or trivalent cation, x = 1-5; 1 ≤ y ≤8; and z = 2y + 1; n = 1-3; and the ligands CyF2y+1-zHz are the same or different, (2) an organic solvent, selected from organic carbonates, esters, ethers, amides, a sulfur-containing solvent, and aprotic solvents, and (3) a polymer. The cation (Mn+) can be a metal ion (e.g., Li+, Na+, K+, Rb+, Ce+, Mg2+, or Al3+), preferably Li+, or an organic cation, such as NR4+, [P(NR2)kR4-k]+ (k = 0-4), [C(NR2)3]+, or [CR3]+. The polymer component is selected from homopolymers or copolymers of vinylidenedifluoride, acrylonitrile, Me (meth)acrylate, or THF (preferably polyvinylidene difluoride).
IC ICM H01M0010-40
ICS H01B0001-12; H01G0009-02; C07F0009-28
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery electrolyte fluoroalkyl phosphate salt org carbonate; polymer battery electrolyte fluoroalkyl phosphate
IT Solvents
(aprotic, electrolytes containing; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)
IT Superconductor devices
(capacitors, electrolytes for; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)
IT Amides, uses
Esters, uses

Ethers, uses
Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytes containing; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes
)

IT Capacitors
(electrolytes for; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes
)

IT Electrolytes
(for elec. equipment; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes
)

IT Battery electrolytes
(perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)

IT Capacitors
(superconducting, electrolytes for; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)

IT 60-29-7, Diethyl ether, uses 67-64-1, Acetone, uses 67-68-5, DMSO, uses 68-12-2, Dimethylformamide, uses 75-05-8, Acetonitrile, uses 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propanoate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 107-13-1, Acrylonitrile, uses 107-31-3, Methyl formate 108-32-7, Propylene carbonate 109-94-4, Ethyl formate 110-71-4 127-19-5, Dimethylacetamide 141-78-6, Ethyl acetate, uses 463-79-6D, Carbonic acid, alkyl esters 554-12-1, Methyl propanoate 616-38-6, Dimethyl carbonate 616-42-2, Dimethyl sulfite 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-81-4, Diethyl sulfite 1120-71-4, Propanesultone 4437-85-8, Butylene carbonate 24937-79-9, Polyvinylidene difluoride 56525-42-9, Methyl propyl carbonate, uses 73506-93-1, Diethoxyethane 206057-04-7 377739-48-5 394692-80-9 394692-84-3 394692-91-2 394692-92-3 394692-93-4 394692-94-5 425633-73-4 425633-74-5 425633-75-6 425633-76-7
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytes containing; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes
)

IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with difluorotris(pentafluoroethyl)phosphorane or difluorotris(nonafluorobutyl)phosphorane; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)

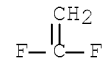
IT 91543-32-7, Phosphorane, difluorotris(pentafluoroethyl)- 91543-34-9, Phosphorane, difluorotris(nonafluorobutyl)-
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with lithium fluoride; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)

IT 24937-79-9, Polyvinylidene difluoride
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytes containing; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes
)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with difluorotris(pentafluoroethyl)phosphorane or difluorotris(nonafluorobutyl)phosphorane; perfluoroalkyl phosphate salt, organic solvent, and polymer mixts. as electrolytes)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 33 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:297161 HCAPLUS Full-text
DN 137:172307
TI The influence of lithium salt on the interfacial reactions controlling the thermal stability of graphite anodes
AU Andersson, A. M.; Herstedt, M.; Bishop, A. G.; Edstrom, K.
CS Angstrom Advanced Battery Centre, Angstrom Laboratory, Department of Materials Chemistry, Uppsala University, Uppsala, 751 21, Swed.
SO Electrochimica Acta (2002), 47(12), 1885-1898
CODEN: ELCAAV; ISSN: 0013-4686
PB Elsevier Science Ltd.
DT Journal
LA English
AB The thermal stability of graphite anodes used in Li-ion batteries has been investigated, with the influence of electrolyte salt under special scrutiny, LiPF6, LiBF4, LiCF3SO3 and LiN(SO2CF3)2 in an ethylene carbonate (EC)/dimethyl carbonate (DMC) solvent mixture Differential scanning calorimetry (DSC) showed exothermic reactions in the temperature range 60-200 °C for all electrolyte systems. The reactions were coupled to decomposition of the solid electrolyte interphase (SEI) and reactions involving intercalated lithium. The onset temperature of the exothermic reactions increased with type of salt in the order: LiBF4<LiPF6<LiCF3SO3<LiN(SO2CF3)2. XPS was used to identify surface species formed prior to and after the exothermic reactions, to clarify different thermal behavior for different salts. The decomposed SEI's in LiCF3SO3 and LiN(SO2CF3)2 electrolytes were found to be mainly solvent-based, including lithium alkyl carbonate decomposition to stable Li2CO3 and the formation of poly(ethylene oxide) (PEO)-type polymers. In the LiBF4 and LiPF6 systems, decomposition was governed by salt reactions, which decomposed the salts and resulted in the main product LiF.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 73, 78
IT Polyoxyalkylenes, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC

(Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium salt and fluoroalkyl carbonates)

IT Battery anodes
Thermal stability
(influence of lithium salt on interfacial reactions controlling thermal stability of graphite anodes)

IT X-ray photoelectron spectra
(of graphite anodes in PC:DMC electrolyte containing lithium salt)

IT Differential scanning calorimetry
(of graphite anodes in electrolyte containing lithium salt)

IT 7789-24-4, Lithium fluoride, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium fluorinated salt)

IT 554-13-2, Lithium carbonate
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium salt)

IT 25322-68-3, Poly(ethylene oxide)
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium salt and fluoroalkyl carbonates)

IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium triflate 90076-65-6, Lithium bis(trifluoromethanesulfonyl imide)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(influence of lithium salt on interfacial reactions controlling thermal stability of graphite anodes in electrolyte containing)

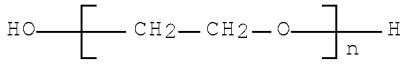
IT 7789-24-4, Lithium fluoride, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium fluorinated salt)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

IT 25322-68-3, Poly(ethylene oxide)
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(formation by thermal reaction of graphite anodes in electrolyte containing lithium salt and fluoroalkyl carbonates)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 34 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:243674 HCAPLUS Full-text
DN 136:404217
TI Influence of Temperature on the Interface Chemistry of LixMn2O4 Electrodes
AU Eriksson, T.; Andersson, A. M.; Gejke, C.; Gustafsson, T.; Thomas, J. O.
CS Department of Materials Chemistry, Aengstroem Laboratory, Uppsala University, Uppsala, SE-751 21, Swed.
SO Langmuir (2002), 18(9), 3609-3619
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB The temperature dependence of surface layer formation on LixMn2O4 electrodes in carbonate-based electrolytes has been studied. No significant differences were observed in the elemental composition of the surface film for cycled and stored samples. This argues against an electrochem. contribution to the surface film formation at elevated temperature A surface film is formed at higher temps. containing poly(oxyethylene)/polycarbonate, LiF, LixPOyFz, and phosphorus oxides (or LixBOyFz and boron oxides, depending on the electrolyte salt). The thickness and coverage increase at higher temps. No onset temperature could be found for the formation process, suggesting a general increase in reaction kinetics with temperature A model is presented for the surface layer formed on LixMn2O4 ($0 \leq x \leq 1$) electrodes in contact with carbonate-based electrolytes. Polymeric compds. were found to precipitate closest to the electrode surface, with an intermediate layer of LiF and a phosphorus-rich layer outermost.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium manganese oxide electrode interface; battery lithium manganese oxide cathode interface
IT Battery cathodes
Interface
(influence of temperature on interface chemical of lithium manganese oxide electrodes in carbonate-based electrolytes)
IT 12057-17-9, Lithium manganese oxide (LiMn2O4)
RL: DEV (Device component use); USES (Uses)
(influence of temperature on interface chemical of lithium manganese oxide electrodes in carbonate-based electrolytes)
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(influence of temperature on interface chemical of lithium manganese oxide electrodes in carbonate-based electrolytes)
IT 1303-86-2, Boron oxide, formation (nonpreparative) 1314-56-3, Phosphorus oxide, formation (nonpreparative) 7789-24-4, Lithium fluoride, formation (nonpreparative) 106818-19-3, Ethylene carbonate-ethylene oxide copolymer
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(influence of temperature on interface chemical of lithium manganese oxide electrodes in carbonate-based electrolytes)

IT 7789-24-4, Lithium fluoride, formation
(nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(influence of temperature on interface chemical of lithium manganese oxide electrodes in carbonate-based electrolytes)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 35 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:163800 HCAPLUS Full-text
DN 136:219519
TI Phenyl boron-based compounds as anion receptors for nonaqueous battery electrolytes
IN Lee, Hung Sui; Yang, Xiao-qing; McBreen, James; Sun, Xuehui
PA Brookhaven Science Associates, Llc, USA
SO U.S., 15 pp., Cont.-in-part of U. S. 6,022,643.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6352798	B1	20020305	US 2000-492569	20000127 <--
	US 6022643	A	20000208	US 1997-986846	19971208 <--
PRAI	US 1997-986846	A2	19971208 <--		

OS MARPAT 136:219519
AB Novel fluorinated boronate-based compds. which act as anion receptors in nonaq. battery electrolytes are provided. When added to nonaq. battery electrolytes, the fluorinated boronate-based compds. of the invention enhance ionic conductivity and cation transference number of nonaq. electrolytes. The fluorinated boronate-based anion receptors include different fluorinated alkyl and aryl groups.
IC ICM H01M0006-14
INCL 429324000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 27
ST battery electrolyte anion receptor fluorinated boronate based compd
IT Battery electrolytes
Ionic conductivity
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)
IT Polyanilines
Polyoxyalkylenes, uses
Polysulfides
Transition metal chalcogenides
Transition metal oxides
RL: DEV (Device component use); USES (Uses)
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)
IT Oxides (inorganic), uses
RL: DEV (Device component use); USES (Uses)

(lithiated; Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)

IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)

IT 75-05-8, Acetonitrile, uses 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 107-31-3, Methyl formate 108-32-7, Propylene carbonate 109-87-5, Dimethoxymethane 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 115-10-6, Dimethyl ether 126-33-0, Sulfolane 534-22-5, 2-Methylfuran 616-38-6, Dimethyl carbonate 646-06-0, 1,3-Dioxolane 872-50-4, 1-Methyl-2-pyrrolidinone, uses 1072-47-5 1072-71-5, 2,5-Dimercapto-1,3,4-thiadiazole 2923-17-3, Lithium trifluoroacetate 7439-93-2, Lithium, uses 7440-44-0D, Carbon, intercalation compound, with lithium 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, uses 7791-03-9, Lithium perchlorate 9011-17-0 , Hexafluoropropylene-vinylidene fluoride copolymer 10377-51-2, Lithium iodide 12031-65-1, Lithium nickel oxide linio2 12057-17-9, Lithium manganese oxide limn2o4 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide colio2 12201-18-2, Lithium molybdenum sulfide limos2 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 19836-78-3, 3-Methyl-2-oxazolidinone 21324-40-3, Lithium hexafluorophosphate 25014-41-9, Polyacrylonitrile 25233-30-1, Polyaniline 25322-68-3, Peo 25948-29-2, Carbon disulfide, homopolymer 29935-35-1, Lithium hexafluoroarsenate 39448-96-9, Graphite lithium 55326-82-4, Lithium titanium sulfide litis2 55886-04-9, Lithium niobium selenide Li3NbSe3 87187-79-9, Propanoic acid, pentafluoro-, lithium salt 87442-01-1, Benzoic acid, pentafluoro-, lithium salt 131344-56-4, Cobalt lithium nickel oxide 138187-48-1, Lithium vanadium oxide Li1.2V2O5 152991-98-5, Aluminum lithium nickel oxide 159967-11-0, Lithium magnesium nickel oxide 180984-62-7, Lithium nickel titanium oxide 256345-13-8, Lithium vanadium oxide Li2.5V6O13
RL: DEV (Device component use); USES (Uses)
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)

IT 23542-71-4P 365458-32-8P 365458-33-9P 365458-34-0P 365458-35-1P 365458-36-2P 365458-37-3P 365458-38-4P 365458-39-5P 365458-40-8P 402564-35-6P 402564-36-7P 402564-37-8P 402564-38-9P 402564-39-0P
RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)

IT 7789-24-4, Lithium fluoride, uses 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(Ph boron-based compds. as anion receptors for nonaq. battery electrolytes)

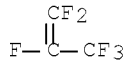
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

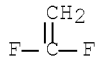
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

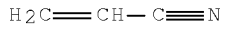
CRN 75-38-7
CMF C2 H2 F2



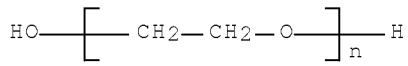
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 36 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:90419 HCAPLUS Full-text
DN 136:153859
TI Electrochemical battery cell
IN Hambitzer, Guenther; Wollfarth, Claudia; Stassen, Ingo; Doerflinger, Ulrike; Ripp, Christiane
PA Fortu Bat Batterien G.m.b.H., Germany

SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002009213	A1	20020131	WO 2001-DE2587	20010707 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI DE 2000-10035941 A 20000721 <--

AB The invention relates to an improved electrochem. battery cell consisting of a neg. electrode, an electrolyte and a pos. electrode. One of the electrodes contains a flat, electronically conductive substrate where the active material is electrolytically separated when charging or discharging the cell. A laminar composite first layer contacts the substrate and a second layer is attached distanced from the substrate. The first layer is a porous non electronically conductive separation layer structured and arranged that the active mass penetrates from the surface of the substrate into its pores and from there is further separated The second layer is a porous barrier layer and its pores are smaller than the pores of the separation layer making it impermeable to the active material but permeable to ions.

IC ICM H01M0004-04
ICS H01M0010-39
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST electrochem battery cell
IT Adhesives
(aluminate-based; electrochem. battery cell
)
IT Ceramics
Primary batteries
(electrochem. battery cell)
IT Fluoropolymers, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. battery cell)
IT Alkali metals, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
IT Alkaline earth metals
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
IT Intercalation compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
IT Oxides (inorganic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
IT Glass fibers, uses
RL: DEV (Device component use); USES (Uses)
(fleece; electrochem. battery cell)
IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(perfluoro-; electrochem. battery cell)

IT 67-63-0, Isopropanol, reactions 9002-84-0, Polytetrafluoroethylene
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. battery cell)
IT 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7440-23-5, Sodium, uses 7440-66-6, Zinc, uses 7440-70-2, Calcium, uses 7446-09-5, Sulfur dioxide, uses 7447-41-8, Lithium chloride, uses 7631-86-9, Silica, uses 7647-14-5, Sodium chloride, uses 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
IT 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrochem. battery cell)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

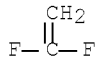
L82 ANSWER 37 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:925676 HCAPLUS Full-text
DN 136:265718
TI Formation of SEI on cycled lithium-ion battery cathodes. Soft x-ray absorption study
AU Balasubramanian, M.; Lee, H. S.; Sun, X.; Yang, X. Q.; Moodenbaugh, A. R.; McBreen, J.; Fischer, D. A.; Fu, Z.
CS Materials Science Department, Brookhaven National Laboratory, Upton, NY, 11973, USA
SO Electrochemical and Solid-State Letters (2002), 5(1), A22-A25
CODEN: ESLEF6; ISSN: 1099-0062
PB Electrochemical Society
DT Journal
LA English
AB The formation of a solid electrolyte interface (SEI) on LiNi0.85Co0.15O2 cathodes from lithium-ion cells cycled at 40 and 70°C was observed and characterized using soft X-ray absorption spectroscopy (XAS). XAS measurements were made in the energy region between 500 and 950 eV, encompassing the Ni and Co L3- and L2-edges and at the K-edges of O and F. Measurements, obtained in the total electron yield mode, are surface sensitive, probing to a depth of .apprx.5 nm. XAS at the F K-edge demonstrates the presence of poly(vinylidene fluoride) (PVdF) in addition to LiF on the surface of cycled electrodes. The PVdF in the cycled electrodes is largely intact and that the LiF comes from decomposition of LiPF6 from the electrolyte. XAS also suggests Fe contamination of cycled cathodes.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery cathode cobalt lithium nickel oxide interface electrolyte
IT Battery cathodes
Electrode-electrolyte interface
(formation of SEI on cycled lithium-ion battery cathodes, soft x-ray absorption study)
IT Fluoropolymers, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation of SEI on cycled lithium-ion battery cathodes, soft x-ray absorption study)

IT 7789-24-4, Lithium fluoride, formation
(nonpreparative) 24937-79-9, Poly(vinylidene fluoride)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation of SEI on cycled lithium-ion battery cathodes,
soft x-ray absorption study)
IT 143623-51-2, Cobalt lithium nickel oxide (Co0.15LiNi0.85O2)
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(formation of SEI on cycled lithium-ion battery cathodes,
soft x-ray absorption study)
IT 7789-24-4, Lithium fluoride, formation
(nonpreparative) 24937-79-9, Poly(vinylidene fluoride)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation of SEI on cycled lithium-ion battery cathodes,
soft x-ray absorption study)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 38 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:868873 HCAPLUS Full-text
DN 136:9101
TI Fabrication method for lithium secondary battery with
polymer electrolyte prepared by spray method
IN Yun, Kyung Suk; Cho, Byung Won; Cho, Won Il; Kim, Hyung Sun; Kim, Un Seok
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001091222	A1	20011129	WO 2000-KR515	20000522 <--
W: JP, KR, US				
PRAI WO 2000-KR515		20000522 <--		

AB The present invention provides a lithium secondary battery and its fabrication method. More particularly, the present invention provides a lithium secondary battery comprising a porous polymer electrolyte and its fabrication method,

wherein the polymer electrolyte is fabricated by the following process: (a) dissolving at least one polymer with plasticizers and organic electrolyte solvents to obtain at least one polymeric electrolyte solution; (b) adding the obtained polymeric electrolyte solution to a barrel of a spray machine, and (c) spraying the polymeric electrolyte solution onto a substrate using a nozzle to form a porous polymer electrolyte film. The lithium secondary battery of the present invention has advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., and better compatibility with organic electrolytes of a lithium secondary battery.

IC ICM H01M0010-38

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST polymer electrolyte lithium secondary battery
; spray method fabrication polymer electrolyte lithium secondary battery

IT Inductance
(electrostatic, spray method; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Battery electrolytes
Lamination
Plasticizers
Polymer electrolytes
(fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Secondary batteries
(lithium; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT Coating process
(spray; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT 79-20-9, Methyl acetate 105-37-3, Ethyl propionate 109-99-9, Thf, uses 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methylmethacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 24968-79-4, Acrylonitrile-methyl acrylate copolymer 24980-34-5, Polyethylenesulfide 25014-41-9,

Polyacrylonitrile 25086-89-9, Vinyl acetate-vinyl pyrrolidone copolymer 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25667-11-2, Polyethylenesuccinate 26913-06-4, Poly[imino(1,2-ethanediyl)] 28726-47-8, Poly(oxymethylene-oxyethylene) 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0, Poly[bis(2-(2-methoxyethoxyethoxy))-phosphazene]
RL: DEV (Device component use); USES (Uses)
(fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT 554-13-2, Lithium carbonate 1304-28-5, Barium oxide bao, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

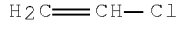
IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 110-71-4, 1,2-Dimethoxyethane 127-19-5, n,n-Dimethyl acetamide 143-24-8, Tetraethylene glycol dimethyl ether 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-50-4, n-Methyl-2-pyrrolidone, uses 4437-85-8, Butylene carbonate 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

IT 9002-86-2, Pvc 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

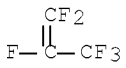
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

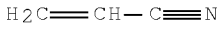
CM 1

CRN 75-38-7
CMF C2 H2 F2

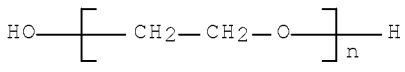
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication method for lithium secondary battery with polymer electrolyte prepared by spray method)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 39 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:868872 HCAPLUS Full-text
DN 136:9100
TI A lithium secondary battery comprising composite polymer electrolyte fabricated by a spray method
IN Yun, Kyung Suk; Cho, Byung Won; Cho, Won Il; Kim, Hyung Sun; Kim, Un Seok
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001091221	A1	20011129	WO 2000-KR514	20000522 <--
	W: JP, KR, US				
PRAI	WO 2000-KR514		20000522 <--		

AB The present invention provides a novel composite polymer electrolyte, lithium secondary battery comprising the composite polymer electrolyte and their fabrication methods. More particularly, the present invention provides the composite polymer electrolyte comprising a porous polymer electrolyte matrix with particles, fibers or mixture thereof having diams. of 1-3000 nm, polymers and lithium salt-dissolved organic electrolyte solns. incorporated into the porous polymer matrix. The composite polymer electrolyte of the present invention has advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., better compatibility with organic electrolytes of lithium secondary battery and it can be applied to the manufacture of lithium secondary batteries.
IC ICM H01M0010-38
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium secondary battery composite polymer electrolyte; spray method fabrication composite polymer electrolyte
IT Inductance
(electrostatic induction spray; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)
IT Battery electrolytes
Plasticizers
Polymer electrolytes
(lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)
IT Fluoropolymers, uses

Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT Secondary batteries
(lithium; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT Coating process
(spray; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT 554-13-2, Lithium carbonate 1304-28-5, Barium oxide bao, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide na2o, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 4437-85-8, Butylene carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidenefluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 24968-79-4, Acrylonitrile-methylacrylate copolymer 24980-34-5, Polyethylene sulfide 25014-41-9, Polyacrylonitrile 25086-89-9, Vinyl acetate-vinylpyrrolidone copolymer 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25667-11-2, Polyethylenesuccinate 25721-76-0, Polyethylene glycol dimethacrylate 26913-06-4, Poly[imino(1,2-ethanediyl)] 28726-47-8, Poly(oxymethylene-oxyethylene) 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0, Poly[bis(2-(2-methoxyethoxyethoxy))phosphazene]
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

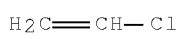
IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 143-24-8, Tetraethylene glycol dimethyl ether 872-50-4, n-Methyl-2-pyrrolidone, uses 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)

IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9002-86-2, Pvc 9011-17-0,
Hexafluoropropylene-vinylidenefluoride copolymer
24937-79-9, Pvdf 25014-41-9,
Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising composite polymer electrolyte fabricated by spray method)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

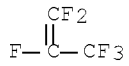
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

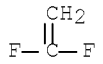
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

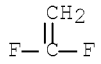
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

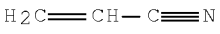
CRN 75-38-7
CMF C2 H2 F2



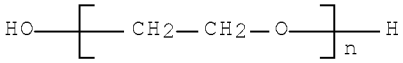
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 40 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:868871 HCAPLUS Full-text
DN 136:9099
TI Fabrication of a lithium secondary battery comprising a hybrid polymer electrolyte prepared by a spray method
IN Yun, Kyung Suk; Cho, Byung Won; Cho, Won Il; Kim, Hyung Sun; Kim, Un Seok
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001091220	A1	20011129	WO 2000-KR513	20000522 <--
W: JP, KR, US				
PRAI WO 2000-KR513		20000522 <--		

AB The present invention provides a novel hybrid polymer electrolyte, a lithium secondary battery comprising the hybrid polymer electrolyte and their

fabrication methods. More particularly, the present invention provides the hybrid polymer electrolyte comprising a porous polymer matrix with particles, fibers or mixture thereof having diams. of 1-3000 nm, polymers and lithium salt-dissolved organic electrolyte solns. incorporated into the porous polymer matrix. The hybrid polymer electrolyte has advantages of better adhesion with electrodes, good mech. strength, better performance at low- and high-temps., better compatibility with organic electrolytes of a lithium secondary battery and it can be applied to the manufacture of lithium secondary batteries.

IC ICM H01M0010-38

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST lithium secondary battery hybrid polymer electrolyte; spray method hybrid polymer electrolyte lithium secondary battery

IT Inductance
(electrostatic, spray method; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Battery electrolytes
Plasticizers
Polymer electrolytes
(fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Secondary batteries
(lithium; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT Coating process
(spray; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)

IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 4437-85-8, Butylene carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate

24936-67-2, Polyethylene sulfide 24937-79-9,
Polyvinylidene fluoride 24968-79-4,
Acrylonitrile-methylacrylate copolymer 25014-41-9,
Polyacrylonitrile 25086-89-9, Vinyl acetate-vinylpyrrolidone
copolymer 25322-68-3, Peo 25322-69-4,
Polypropylene oxide 25667-11-2, Polyethylene succinate 26570-48-9,
Polyethylene glycol diacrylate 26913-06-4, Poly[imino(1,2-ethanediyl)]
28726-47-8, Poly(oxymethyleneoxyethylene) 29935-35-1, Lithium
hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0,
Poly[bis(2-(2-methoxyethoxyethoxy))phosphazene]
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising hybrid
polymer electrolyte prepared by spray method)

IT 68-12-2, Dmf, uses 872-50-4, n-Methyl-2-pyrrolidone, uses 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of lithium secondary battery comprising hybrid
polymer electrolyte prepared by spray method)

IT 554-13-2, Lithium carbonate 1304-28-5, Barium oxide bao, uses
1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3,
Sodium oxide na2o, uses 1344-28-1, Alumina, uses 7631-86-9, Silica,
uses 7789-24-4, Lithium fluoride, uses
9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7,
Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses
13463-67-7, Titania, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery
comprising hybrid polymer electrolyte prepared by
spray method)

IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 80-73-9,
1,3-Dimethyl-2-imidazolidinone 143-24-8, Tetraethylene glycol dimethyl
ether
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of lithium secondary battery
comprising hybrid polymer electrolyte prepared by
spray method)

IT 9002-86-2, Pvc 9011-17-0,
Hexafluoropropylene-vinylidene fluoride
copolymer 24937-79-9, Polyvinylidene
fluoride 25014-41-9, Polyacrylonitrile
25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising hybrid
polymer electrolyte prepared by spray method)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

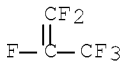
CM 1

CRN 75-01-4
CMF C2 H3 Cl

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

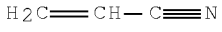
CM 1

CRN 75-38-7
CMF C2 H2 F2

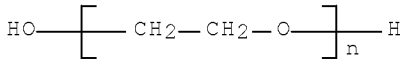
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising hybrid polymer electrolyte prepared by spray method)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 41 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:868870 HCAPLUS Full-text
DN 136:9098
TI A lithium secondary battery comprising a porous polymer separator film fabricated by a spray method
IN Yun, Kyung Suk; Cho, Byung Won; Cho, Won Il; Kim, Hyung Sun; Kim, Un Seok
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001091219	A1	20011129	WO 2000-KR512	20000522 <--
W: JP, KR, US				
PRAI WO 2000-KR512		20000522 <--		

AB The present invention provides a lithium secondary battery and its fabrication method. More particularly, the present invention provides a lithium secondary battery comprising a porous polymer separator film and its fabrication method, wherein the porous polymer separator film is fabricated by the following process : (a) melting at least one polymer or dissolving at least one polymer with an organic solvent to obtain at least one polymeric melt or at least one polymeric solution; (b) adding the obtained polymeric melt or polymeric solution to barrels of a spray machine; and (c) spraying the polymeric melt or polymeric solution onto a substrate using a nozzle to form a porous separator film. The lithium secondary battery of the present invention has advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., and better compatibility with an organic electrolyte solution of a lithium secondary battery.
IC ICM H01M0010-38
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium secondary battery porous polymer separator
IT Inductance
(electrostatic induction; lithium secondary battery comprising porous polymer separator film fabricated by spray method)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising porous polymer separator film fabricated by spray method)
IT Secondary battery separators

(lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT Alcohols, uses
Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT Secondary batteries
(lithium; lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT Coating process
(spray; lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT 554-13-2, Lithium carbonate 1304-28-5, Baria, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide na2o, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 79-20-9, Methyl acetate 80-73-9, 1,3-Dimethyl-2-imidazolidinone 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, n,n-Dimethylacetamide 141-78-6, Ethyl acetate, uses 143-24-8, Tetraethylene glycol dimethyl ether 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-50-4, n-Methyl-2-pyrrolidone, uses 4437-85-8, Butylene carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 24968-79-4, Acrylonitrile-methylacrylate copolymer 24980-34-5, Polyethylene sulfide 25014-41-9, Polyacrylonitrile 25086-89-9, Vinyl acetate-vinylpyrrolidone copolymer 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25667-11-2, Polyethylene succinate 26101-52-0 26913-06-4, Poly[imino(1,2-ethanediyl)] 28726-47-8, Poly(Oxymethyleneoxyethylene) 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0, Poly[bis(2-(2-methoxyethoxyethoxy))phosphazene]
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising porous polymer separator film fabricated by spray method)

IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; lithium secondary battery comprising porous polymer separator film fabricated by spray method)

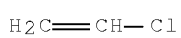
RN 7789-24-4 HCAPLUS

CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9002-86-2, Pvc 9011-17-0,
Hexafluoropropylene-vinylidene fluoride
copolymer 24937-79-9, Pvdf 25014-41-9
, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(lithium secondary battery comprising porous polymer
separator film fabricated by spray method)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

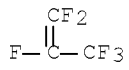
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA
INDEX NAME)

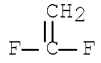
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

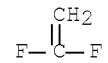
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

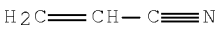
CRN 75-38-7
CMF C2 H2 F2



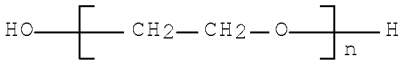
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 42 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:851557 HCAPLUS Full-text
DN 135:374196
TI Fabrication of a lithium secondary battery comprising a superfine fibrous polymer electrolyte
IN Yun, Kyung Suk; Cho, Byung Won; Jo, Seong Mu; Lee, Wha Seop; Cho, Won Il; Park, Kun You; Kim, Hyung Sun; Kim, Un Seok; Ko, Seok Ku; Chun, Suk Won; Choi, Sung Won
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001089023	A1	20011122	WO 2000-KR501	20000519 <--
W: JP, KR, US				
PRAI WO 2000-KR501		20000519 <--		

AB The present invention provides a lithium secondary battery and its fabrication method. More particularly, the present invention provides a lithium secondary battery comprising super fine fibrous porous polymer electrolyte and its preparation method, wherein the polymer electrolyte is fabricated by the following process: (a) dissolving at least one polymer with plasticizers and y organic electrolyte solvents to obtain at least one polymeric electrolyte

solution; (b) adding the obtained polymeric electrolyte solution to a barrel of an electrospinning machine; and, (c) electropinning the polymeric electrolyte solution onto a substrate using a nozzle to form a polymer electrolyte film. The lithium secondary battery of the present invention has advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., and better compatibility with organic electrolytes of a lithium secondary battery.

IC ICM H01M0010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST lithium secondary battery superfine fibrous polymer electrolyte

IT Battery electrolytes
Plasticizers
Polymer electrolytes
(fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT Secondary batteries
(lithium; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT Fibers
RL: DEV (Device component use); USES (Uses)
(spinning, electrospinning; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT 79-20-9, Methyl acetate 105-37-3, Ethyl propionate 109-99-9, Thf, uses 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24936-67-2, Polyethylenesulfide 24937-79-9 , Pvdf 24968-79-4, Acrylonitrile-methylacrylate copolymer 25014-41-9, Polyacrylonitrile 25086-89-9, Vinyl acetate-vinylpyrrolidone copolymer 25266-14-2, Oxyethylene-oxymethylene copolymer 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25569-53-3, Polyethylenesuccinate 26913-06-4, Poly[imino(1,2-ethanediyl)] 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0, Poly[bis(2-(2-methoxyethoxyethoxy)phosphazene]
RL: DEV (Device component use); USES (Uses)

(fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT 7631-86-9, Silica, uses 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT 13463-67-7, Titania, uses
RL: DEV (Device component use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT 554-13-2, Lithium carbonate 1304-28-5, Barium oxide bao, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide, uses 1344-28-1, Alumina, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

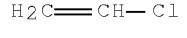
IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 110-71-4, 1,2-Dimethoxyethane 127-19-5, n,n-Dimethyl acetamide 143-24-8, Tetraethylene glycol dimethyl ether 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-50-4, N-Methyl-2-pyrrolidone, uses 4437-85-8, Butylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

IT 9002-86-2, Pvc 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

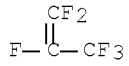
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

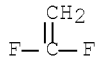
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

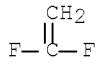
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

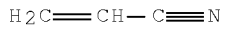
CRN 75-38-7
CMF C2 H2 F2



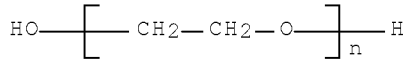
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer electrolyte)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 43 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:851556 HCAPLUS Full-text
DN 135:374195
TI Fabrication of a lithium secondary battery comprising a superfine fibrous polymer separator film
IN Yun, Kyung Suk; Cho, Byung Won; Jo, Seong Mu; Lee, Wha Seop; Cho, Won Il; Park, Kun You; Kim, Hyung Sun; Kim, Un Seok; Ko, Seok Ku; Chun, Suk Won; Choi, Sung Won
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001089022	A1	20011122	WO 2000-KR500	20000519 <--
	W: JP, KR, US				
	JP 2003533862	T	20031111	JP 2001-585344	20000519 <--
	US 7279251	B1	20071009	US 2003-276880	20030711 <--
PRAI	WO 2000-KR500	W	20000519 <--		

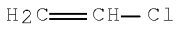
AB The present invention provides a lithium secondary battery and its fabrication method. More particularly, the present invention provides a lithium secondary battery comprising a super fine fibrous porous polymer separator film and its fabrication method, wherein the porous polymer separator film is fabricated by the following process: (a) melting at least one polymer or dissolving at least one polymer with organic solvents to obtain at least one polymeric melt or at least one polymeric solution; (b) adding the obtained polymeric melt or polymeric solution to barrels of an electrospinning machine; and (c) discharging the polymeric melt or polymeric solution onto a substrate using a nozzle to form a porous separator film. The lithium secondary battery of the present invention has the advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., and better compatibility with organic electrolyte solution of a lithium secondary battery.
IC ICM H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium secondary battery superfine fibrous polymer separator
IT Secondary battery separators
(fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT Alcohols, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of lithium secondary battery comprising

superfine fibrous polymer separator film)
IT Secondary batteries
(lithium; fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT Fibers
RL: DEV (Device component use); USES (Uses)
(spinning, electro-; fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 79-20-9, Methyl acetate 80-73-9, 1,3-Dimethyl-2-imidazolidinone 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 143-24-8, Tetraethyleneglycol dimethyl ether 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethylmethyl carbonate 872-50-4, n-Methyl-2-pyrrolidone, uses 4437-85-8, Butylene carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24936-67-2, Polyethylenesulfide 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25086-89-9, Vinyl acetate-vinyl pyrrolidone copolymer 25266-14-2 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25569-53-3, Polyethylenesuccinate 25749-57-9, Acrylonitrile-methacrylic acid copolymer 26101-52-0 26913-06-4, Poly[imino(1,2-ethanediyl)] 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT 554-13-2, Lithium carbonate 1344-28-1, Alumina, uses 9002-84-0, Ptfe
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT 1304-28-5, Barium monoxide, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide na2o, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
IT 9002-86-2, Pvc 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
RN 9002-86-2 HCAPLUS

CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

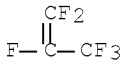
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

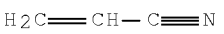
CRN 75-38-7
CMF C2 H2 F2

RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

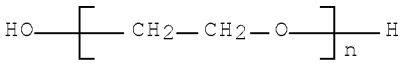
CM 1

CRN 107-13-1

CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of lithium secondary battery comprising superfine fibrous polymer separator film)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 44 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:851555 HCAPLUS Full-text
DN 135:374194
TI Fabrication of composite polymer electrolyte and a lithium secondary battery comprising the composite polymer electrolyte
IN Yun, Kyung Suk; Cho, Byung Won; Jo, Seong Mu; Lee, Wha Seop; Cho, Won Il; Park, Kun You; Kim, Hyung Sun; Kim, Un Seok; Ko, Seok Ku; Choi, Sung Won
PA Korea Institute of Science and Technology, S. Korea; Chun, Suk Won
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001089021	A1	20011122	WO 2000-KR499	20000519 <--
W: JP, KR, US				
PRAI WO 2000-KR499		20000519 <--		

AB The present invention provides a novel composite polymer electrolyte, lithium secondary battery comprising the composite polymer electrolyte and their fabrication methods. More particularly, the present invention provides the composite polymer electrolyte comprising super fine fibrous porous polymer electrolyte matrix with particles having diameter of 1-3000 nm, polymers and lithium salt-dissolved organic electrolyte solns. incorporated into the porous polymer electrolyte matrix. The composite polymer electrolyte of the present invention has advantages of better adhesion with electrodes, good mech.

strength, better performance at low and high temps., better compatibility with organic electrolytes of lithium secondary battery and it can be applied to the manufacture of lithium secondary batteries.

IC ICM H01M0010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST lithium secondary battery composite polymer electrolyte

IT Battery electrolytes
Plasticizers
Polymer electrolytes
(fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT Secondary batteries
(lithium; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT Fibers
RL: DEV (Device component use); USES (Uses)
(spinning, electro-; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24936-67-2, Polyethylene sulfide 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25086-89-9, Vinyl acetate-vinylpyrrolidone copolymer 25266-14-2 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25569-53-3, Polyethylene succinate 25721-76-0, Polyethylene glycol dimethacrylate 25749-57-9, Acrylonitrile-methacrylic acid copolymer 26570-48-9, Polyethylene glycol diacrylate 26913-06-4, Poly[imino(1,2-ethanediyl)] 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0

RL: DEV (Device component use); USES (Uses)
(fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 105-37-3, Ethyl propionate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 4437-85-8, Butylene carbonate 12003-67-7, Aluminum lithium oxide allio2
RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT 554-13-2, Lithium carbonate 1304-28-5, Baria, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodium oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride li3n
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

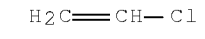
IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 143-24-8, Tetraethylene glycol dimethyl ether 872-50-4, n-Methyl-2-pyrrolidone, uses 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

IT 9002-86-2, Pvc 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(fabrication of composite polymer electrolyte and lithium secondary battery comprising composite polymer electrolyte)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

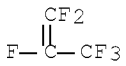
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

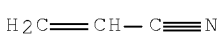
CM 1

CRN 75-38-7
CMF C2 H2 F2

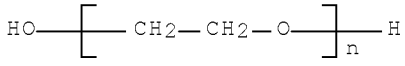
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication of composite polymer electrolyte and lithium secondary battery comprising

composite polymer electrolyte)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 45 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:851554 HCAPLUS Full-text
DN 135:374193
TI Fabrication method of lithium secondary battery with hybrid polymer electrolyte
IN Yun, Kyung Suk; Cho, Byung Won; Jo, Seong Mu; Lee, Wha Seop; Cho, Won Il; Park, Kun You; Kim, Hyung Sun; Kim, Un Seok; Ko, Seok Ku; Chun, Suk Won; Choi, Sung Won
PA Korea Institute of Science and Technology, S. Korea
SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001089020	A1	20011122	WO 2000-KR498	20000519 <--
	W: JP, KR, US				
	JP 2003533861	T	20031111	JP 2001-585342	20000519 <--
	JP 4108981	B2	20080625		
PRAI	WO 2000-KR498	W	20000519 <--		

AB The present invention provides a novel hybrid polymer electrolyte, a lithium secondary battery comprising the hybrid polymer electrolyte polymer and their fabrication methods. More particularly, the present invention provides the hybrid polymer electrolyte comprising superfine fibrous porous polymer matrix with particles having diameter of 1-3000 nm, polymers and lithium salt-dissolved organic electrolyte solns. incorporated into the porous polymer matrix. The hybrid polymer electrolyte has advantages of better adhesion with electrodes, good mech. strength, better performance at low and high temps., better compatibility with organic electrolytes of a lithium secondary battery and it can be applied to the manufacture of lithium secondary batteries.
IC ICM H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium secondary battery hybrid polymer electrolyte
IT Battery electrolytes
Plasticizers
Polymer electrolytes
(fabrication method of lithium secondary battery with hybrid polymer electrolyte)
IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fabrication method of lithium secondary battery with hybrid polymer electrolyte)
IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)

(filling agent; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT Secondary batteries
(lithium; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT Fibers
RL: DEV (Device component use); USES (Uses)
(spinning, electro-; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 127-19-5, Dimethyl acetamide 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethylmethyl carbonate 4437-85-8, Butylene carbonate 7782-42-5, Graphite, uses 7791-03-9, Lithium perchlorate 9002-86-2, Pvc 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9004-34-6, Cellulose, uses 9004-35-7, Cellulose acetate 9004-36-8 9004-39-1, Cellulose acetate propionate 9010-76-8, Acrylonitrile-vinylidene chloride copolymer 9010-88-2, Ethyl acrylate-methyl methacrylate copolymer 9011-14-7, Pmma 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Pvdf 24980-34-5, Polyethylene sulfide 25014-41-9, Polyacrylonitrile 25086-89-9 25266-14-2, Oxyethylene-oxymethylene copolymer 25322-68-3, Peo 25322-69-4, Polypropylene oxide 25569-53-3, Polyethylene succinate 25721-76-0, Polyethylene glycol dimethacrylate 25749-57-9, Acrylonitrile-methacrylic acid copolymer 26570-48-9, Polyethylene glycol diacrylate 26913-06-4, Poly[imino(1,2-ethanediyl)] 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 98973-15-0
RL: DEV (Device component use); USES (Uses)
(fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT 554-13-2, Lithium carbonate 1304-28-5, Baria, uses 1309-48-4, Magnesia, uses 1310-65-2, Lithium hydroxide 1313-59-3, Sodiumoxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 12003-67-7, Aluminum lithium oxide allio2 12047-27-7, Barium titanium oxide batio3, uses 12057-24-8, Lithia, uses 13463-67-7, Titania, uses 26134-62-3, Lithium nitride li3n
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

IT 67-64-1, Acetone, uses 67-68-5, Dmso, uses 68-12-2, Dmf, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 143-24-8, Tetraethylene glycol dimethyl ether 872-50-4, n-Methyl-2-pyrrolidone, uses 26101-52-0
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; fabrication method of lithium secondary battery with hybrid polymer electrolyte)

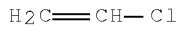
IT 9002-86-2, Pvc 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pvdf 25014-41-9, Polyacrylonitrile 25322-68-3, Peo

RL: DEV (Device component use); USES (Uses)
(fabrication method of lithium secondary battery with hybrid polymer electrolyte)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

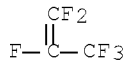
CRN 75-01-4
CMF C2 H3 Cl



RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

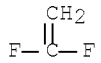
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

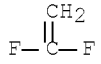
CRN 75-38-7
CMF C2 H2 F2



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

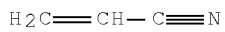
CRN 75-38-7
CMF C2 H2 F2



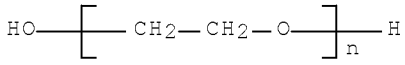
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(filling agent; fabrication method of lithium secondary battery with hybrid polymer electrolyte)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 46 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:676382 HCAPLUS Full-text
DN 135:213509
TI Solid electrolyte battery
IN Hara, Tomitaro; Shibuya, Mashio; Suzuki, Yusuke
PA Sony Corp., Japan
SO Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1132987	A2	20010912	EP 2001-105134	20010302 <--
EP 1132987	A3	20031203		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001256999	A	20010921	JP 2000-72512	20000310 <--
TW 488103	B	20020521	TW 2001-90104514	20010227 <--
MX 2001PA02455	A	20030820	MX 2001-PA2455	20010308 <--
NO 2001001210	A	20010911	NO 2001-1210	20010309 <--
CN 1319906	A	20011031	CN 2001-111305	20010309 <--
US 20020015885	A1	20020207	US 2001-803561	20010309 <--
US 6753113	B2	20040622		

KR 767196 B1 20071016 KR 2001-12171 20010309 <--
PRAI JP 2000-72512 A 20000310 <--

AB In a solid electrolyte cell, oxidative decomposition of electrolyte components is suppressed to maintain the superior cell performance. The solid electrolyte includes a neg. electrode having a neg. electrode current collector and a neg. electrode active material, a pos. electrode having a pos. electrode current collector and a pos. electrode active material and a solid electrolyte arranged between the neg. electrode and the pos. electrode and which is comprised of an electrolyte salt dispersed in a matrix polymer. A diene compound is contained in at least one of the pos. electrode and the solid electrolyte.

IC ICM H01M0010-40
ICS H01M0004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST battery solid electrolyte

IT Sulfonic acids, uses
RL: DEV (Device component use); USES (Uses)
(alkanesulfonic; solid electrolyte battery containing diene compound)

IT Secondary batteries
(lithium; solid electrolyte battery containing diene compound)

IT Polysulfones, uses
RL: DEV (Device component use); USES (Uses)
(polyether-; solid electrolyte battery containing diene compound)

IT Polyethers, uses
RL: DEV (Device component use); USES (Uses)
(polysulfone-; solid electrolyte battery containing diene compound)

IT Battery anodes
Battery cathodes
Battery electrolytes
(solid electrolyte battery containing diene compound)

IT Fluoropolymers, uses
Polycarbonates, uses
Polyoxyalkylenes, uses
Polysulfones, uses
RL: DEV (Device component use); USES (Uses)
(solid electrolyte battery containing diene compound)

IT Cycloalkadienes
RL: MOA (Modifier or additive use); USES (Uses)
(solid electrolyte battery containing diene compound)

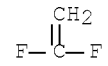
IT 60-29-7, Diethyl ether, uses 67-68-5, Dmso, uses 75-05-8, Acetonitrile, uses 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses 110-71-4, 1,2-Dimethoxyethane 452-10-8, 2,4-Difluoroanisole 616-38-6, Dimethyl carbonate 646-06-0, 1,3-Dioxolane 872-36-6, Vinylene carbonate 7550-35-8, Lithium bromide 7782-42-5, Graphite, uses 7789-24-4, Lithium fluoride, uses 7791-03-9, Lithium perchlorate 9002-84-0, Ptfe 9003-05-8, Polyacryl amide 12190-79-3, cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24937-79-9, Polyvinylidene fluoride 25087-26-7, Polymethacrylic acid 25322-68-3, Peo 25322-69-4, Polypropylene oxide 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6 131651-65-5, Lithium perfluorobutanesulfonate 132404-42-3
RL: DEV (Device component use); USES (Uses)

(solid electrolyte battery containing diene compound)
IT 628-41-1, 1,4-Cyclohexadiene
RL: MOA (Modifier or additive use); USES (Uses)
(solid electrolyte battery containing diene compound)
IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(solid electrolyte battery containing diene compound)
IT 7789-24-4, Lithium fluoride, uses
24937-79-9, Polyvinylidene fluoride
25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(solid electrolyte battery containing diene compound)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

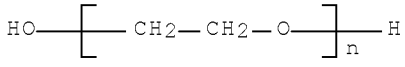
RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



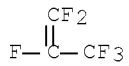
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(solid electrolyte battery containing diene compound)
RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

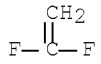
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 47 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:582286 HCAPLUS Full-text
DN 135:139896
TI Continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries
IN Hong, Kuochih; Lin, Yee-Ming
PA USA
SO U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Ser. No. 76,146, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20010012586	A1	20010809	US 2001-776354	20010202 <--
	US 5733680	A	19980331	US 1995-553756	19951023 <--
	US 5695530	A	19971209	US 1996-661078	19960610 <--
PRAI	US 1995-553756	A2	19951023 <--		
	US 1996-661078	A2	19960610 <--		
	US 1997-789947	A2	19970127 <--		
	US 1998-76146	B2	19980511 <--		
	US 1994-189080	A2	19940128 <--		
	US 1994-212354	A2	19940314 <--		

AB This invention discloses a method to make a pos. electrode and the nickel hydride battery using same. The pos. electrode at least comprises a nickel hydroxide plus 1-15 weight% of fine additive powders selected from the group consisting of Co/CoO, Ni, Cu, Zn, ZnO, C, Mg, Al, Mn, silver oxide, hydride, conductive polymer, and combinations thereof. The pos. electrode further comprises one, two or more additives, 0.01-10 weight%, selected from the group of MgCl2, CaCl2, SrCl2, SrF2, BaCl2, BaF2, MgF2, and other fluorides/chlorides of alkali metals, alkaline earth metals, Al, Y, Sn, Sb, Ag, transition metals, rare earth metals, and composite metal oxide/halide to improve the performance of the pos. electrode at high temperature
IC ICM H01M0004-32
ICS H01M0004-58; H01M0004-52
INCL 429223000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 56
ST cathode battery nickel hydride
IT Secondary batteries
(Ni-metal hydride; continuous mass production process for fabrication of

pasted nickel cathodes for nickel hydride batteries)

IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT Battery cathodes
Conducting polymers
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT Halides
Hydrides
Iodides, uses
Oxides (inorganic), uses
Rare earth metals, uses
Sulfides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT Polysulfones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT 9004-32-4, Cmc 9004-65-3, Hpmc 9004-67-5, Methylcellulose
25322-68-3
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT 1305-62-0, Calcium hydroxide, uses 1309-42-8, Magnesium hydroxide
1310-73-2, Sodium hydroxide, uses 12054-48-7, Nickel hydroxide
13327-32-7, Beryllium hydroxide 18480-07-4, Strontium hydroxide
RL: DEV (Device component use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT 1314-13-2, Zinc oxide, uses 1344-28-1, Alumina, uses 7429-90-5,
Aluminum, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses
7440-02-0, Nickel, uses 7440-44-0, Carbon, uses 7440-48-4, Cobalt,
uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses 7446-70-0,
Aluminum chloride, uses 7447-40-7, Potassium chloride, uses 7447-41-8,
Lithium chloride, uses 7553-56-2, Iodine, uses 7646-85-7, Zinc
chloride, uses 7647-14-5, Sodium chloride, uses 7681-11-0, Potassium
iodide, uses 7681-49-4, Sodium fluoride,
uses 7681-82-5, Sodium iodide, uses 7783-40-6,
Magnesium fluoride 7783-48-4, Strontium fluoride
7783-49-5, Zinc fluoride 7784-18-1, Aluminum fluoride 7786-30-3,
Magnesium chloride, uses 7787-32-8, Barium fluoride 7787-60-2, Bismuth
chloride bicl3 7789-23-3, Potassium fluoride 7789-24-4,
Lithium fluoride, uses 7789-75-5, Calcium fluoride,
uses 10043-52-4, Calcium chloride, uses 10361-37-2, Barium chloride,
uses 10377-51-2, Lithium iodide 10476-85-4, Strontium chloride
11104-61-3, Cobalt oxide 13775-53-6 15138-76-8, Lithium
tetrafluoroaluminate
RL: MOA (Modifier or additive use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

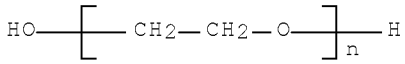
IT 1333-74-0, Hydrogen, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or

engineered material use); PROC (Process); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT 9002-86-2, Pvc 9003-07-0, Polypropylene 12597-68-1, Stainless steel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

IT 25322-68-3
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

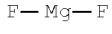
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7681-49-4, Sodium fluoride, uses
7783-40-6, Magnesium fluoride
7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

RN 7783-40-6 HCAPLUS
CN Magnesium fluoride (MgF2) (CA INDEX NAME)



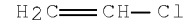
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9002-86-2, Pvc
RL: TEM (Technical or engineered material use); USES (Uses)
(continuous mass production process for fabrication of pasted nickel cathodes for nickel hydride batteries)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl



L82 ANSWER 48 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:280345 HCAPLUS Full-text
DN 134:268840
TI Process for the production of alkaline rechargeable batteries
IN Kawakami, Soichiro; Tani, Atsushi
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1093171	A2	20010418	EP 2000-307852	20000911 <--
	EP 1093171	A3	20050119		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	TW 508862	B	20021101	TW 2000-89118639	20000908 <--
	CN 1292579	A	20010425	CN 2000-130987	20000911 <--
	JP 2001148244	A	20010529	JP 2000-274703	20000911 <--
	US 6475664	B1	20021105	US 2000-658946	20000911 <--
PRAI	JP 1999-255840	A	19990909 <--		

AB In an alkali rechargeable battery having an anode principally comprising a magnesium-nickel alloy capable of storing hydrogen therein and releasing the hydrogen stored therein in electrochem. reaction, the magnesium-nickel alloy constituting the anode has a surface having a coat layer provided thereon, and the coat layer comprises an insulating material which is not dissolved in an electrolyte solution comprising an aqueous alkali solution used in the rechargeable battery, which restrains a reaction which causes a magnesium hydroxide when the magnesium-nickel alloy contacts with the electrolyte solution, and which allows hydrogen or hydrogen ion to pass there through. A process for the production of the rechargeable battery is disclosed.

IC ICM H01M0004-38
ICS H01M0004-62; C01B0003-00
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 56
ST battery alk rechargeable fabrication; hydrogen absorption anode battery
IT Polymers, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(ionomer-containing; process for production of alkaline rechargeable batteries)
IT Ionomers
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(polymer containing; process for production of alkaline rechargeable batteries)
IT Battery anodes
Secondary batteries

(process for production of alkaline rechargeable batteries)
IT 7429-90-5, Aluminum, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(Mg-Ni alloy coated with; process for production of alkaline rechargeable batteries)
IT 1309-42-8, Magnesium hydroxide
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(anode treated with solution containing; process for production of alkaline rechargeable batteries)
IT 1302-42-7, Sodium aluminate 1310-58-3, Potassium hydroxide (K(OH)), uses 1310-65-2, Lithium hydroxide (Li(OH)) 7601-54-9, Trisodium phosphate 7789-23-3, Potassium fluoride 12054-48-7, Nickel hydroxide 12615-39-3, Aluminum 50, lithium 50 atomic 12683-37-3 53590-21-9 77325-33-8, Magnesium 66.7, nickel 33.3 atomic
RL: DEV (Device component use); USES (Uses)
(process for production of alkaline rechargeable batteries)
IT 7440-50-8, Copper, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(process for production of alkaline rechargeable batteries)
IT 7440-48-4, Cobalt, uses
RL: MOA (Modifier or additive use); USES (Uses)
(process for production of alkaline rechargeable batteries)
IT 1333-74-0, Hydrogen, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(process for production of alkaline rechargeable batteries)
IT 144-55-8, Sodium bicarbonate, reactions 1305-62-0, Calcium hydroxide, reactions 1310-73-2, Sodium hydroxide, reactions 1344-09-8, Sodium silicate 7446-70-0, Aluminum chloride, reactions 7487-88-9, Magnesium sulfate, reactions 7550-45-0, Titanium tetrachloride, reactions 7631-99-4, Sodium nitrate, reactions 7632-05-5, Sodium phosphate 7647-14-5, Sodium chloride, reactions 7681-49-4, Sodium fluoride, reactions 7705-07-9, Titanium trichloride, reactions 7705-08-0, Iron trichloride, reactions 7757-82-6, Sodium sulfate, reactions 7775-11-3, Sodium chromate 7786-30-3, Magnesium chloride, reactions 7790-69-4, Lithium nitrate 10026-11-6, Zirconium tetrachloride 10043-52-4, Calcium chloride, reactions 10241-03-9, Zirconium trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for production of alkaline rechargeable batteries)
IT 7664-41-7, Ammonia, uses 7778-50-9, Potassium dichromate 7783-20-2, Ammonium sulfate, uses 21645-51-2, Aluminum hydroxide, uses 39366-43-3, Aluminum Magnesium hydroxide
RL: TEM (Technical or engineered material use); USES (Uses)
(process for production of alkaline rechargeable batteries)
IT 7681-49-4, Sodium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for production of alkaline rechargeable batteries)
RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

F—Na

L82 ANSWER 49 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:210218 HCAPLUS Full-text

DN 134:225092
TI Small-sized secondary batteries and electric circuit substrates comprising of the batteries
IN Tsuchiya, Shuji; Miyamoto, Akito
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001076710	A	20010323	JP 1999-252424	19990907 <--
PRAI JP 1999-252424		19990907 <--		

AB The batteries comprise electrode and electrolyte films prepared by vacuum process, e.g. sputtering, vapor deposition. The batteries may also comprise interlayers of insulating or semiconducting layers between the electrodes and the electrolytes . Elec. circuit substrates equipped with the batteries are also claimed.

IC ICM H01M0004-04
ICS H01M0004-02; H01M0004-58; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 76
ST secondary battery small size film type; vapor deposition film battery manuf; sputtering film battery electrode electrolyte formation; elec circuit mounting secondary film battery
IT Microelectronic devices
(batteries for mounting on; elec. circuit substrates with thin-film secondary batteries comprising of electrodes and electrolytes prepared by vacuum process)
IT Battery electrodes
Battery electrolytes
Electric circuits
Secondary batteries
Sputtering
Vapor deposition process
(elec. circuit substrates with thin-film secondary batteries comprising of electrodes and electrolytes prepared by vacuum process)
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(interlayers; elec. circuit substrates with thin-film secondary batteries comprising of electrodes and electrolytes prepared by vacuum process)
IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(anode; elec. circuit substrates with thin-film secondary batteries comprising of electrodes and electrolytes prepared by vacuum process)
IT 7439-93-2, Lithium, uses
RL: DEV (Device component use); USES (Uses)
(anode; elec. circuit substrates with thin-film secondary batteries comprising of electrodes and electrolytes prepared by vacuum process)
IT 11126-15-1, Lithium vanadium oxide 12031-65-1, Lithium nickel oxide (LiNiO2) 12162-79-7, Lithium manganese oxide (LiMnO2) 12190-79-3, Cobalt lithium oxide (CoLiO2) 39302-37-9, Lithium titanium oxide
RL: DEV (Device component use); USES (Uses)
(cathode; elec. circuit substrates with thin-film secondary

batteries comprising of electrodes and electrolytes
prepared by vacuum process)
IT 1283-90-5, Lithium tetracyanoquinodimethane 1518-16-7,
Tetracyanoquinodimethane 12153-58-1, Copper tetracyanoquinodimethane
RL: DEV (Device component use); USES (Uses)
(electrolyte; elec. circuit substrates with thin-film
secondary batteries comprising of electrodes and
electrolytes prepared by vacuum process)
IT 574-93-6, Phthalocyanine 1314-61-0, Tantalum oxide (Ta2O5) 7631-86-9,
Silica, uses 7783-40-6, Magnesium difluoride
7789-24-4, Lithium fluoride, uses 7789-75-5,
Calcium difluoride, uses 15187-16-3, Lead phthalocyanine
RL: DEV (Device component use); USES (Uses)
(interlayer; elec. circuit substrates with thin-film secondary
batteries comprising of electrodes and electrolytes
prepared by vacuum process)
IT 7783-40-6, Magnesium difluoride
7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(interlayer; elec. circuit substrates with thin-film secondary
batteries comprising of electrodes and electrolytes
prepared by vacuum process)
RN 7783-40-6 HCAPLUS
CN Magnesium fluoride (MgF2) (CA INDEX NAME)

F—Mg—F

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

L82 ANSWER 50 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:185833 HCAPLUS Full-text
DN 134:223194
TI Ionically conductive polymers containing boron atoms useful for
polymer electrolytes and electrical devices
IN Nishiura, Masahito; Kono, Michiyuki; Watanabe, Masayoshi
PA Dai-Ichi Kogyo Seiyaku Co., Ltd., Japan
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001018094	A1	20010315	WO 2000-JP5811	20000828 <--
W: CA, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2001072875	A	20010321	JP 1999-248887	19990902 <--
JP 3557959	B2	20040825		
JP 2001072876	A	20010321	JP 1999-248888	19990902 <--

	JP 3557960	B2	20040825		
	JP 2001072877	A	20010321	JP 1999-248889	19990902 <--
	JP 3557961	B2	20040825		
	JP 2001131246	A	20010515	JP 1999-318000	19991109 <--
	CA 2344204	A1	20010315	CA 2000-2344204	20000828 <--
	CA 2344204	C	20070213		
	EP 1160268	A1	20011205	EP 2000-955080	20000828 <--
	EP 1160268	B1	20040804		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	EP 1428849	A1	20040616	EP 2004-2946	20000828 <--
	EP 1428849	B1	20060405		
	R: DE, FR, IT				
	EP 1428850	A1	20040616	EP 2004-2947	20000828 <--
	EP 1428850	B1	20050504		
	R: DE, FR, IT				
	US 20040202912	A1	20041014	US 2004-835816	20040430 <--
	US 7045242	B2	20060516		
PRAI	JP 1999-248887	A	19990902 <--		
	JP 1999-248888	A	19990902 <--		
	JP 1999-248889	A	19990902 <--		
	JP 1999-318000	A	19991109 <--		
	EP 2000-955080	A3	20000828 <--		
	WO 2000-JP5811	W	20000828 <--		
	US 2001-787233	B1	20010425 <--		

AB The polymers are of the following types: (1) a dendrimer-like polymer having trivalent B atom at core and wedge point, a heteroatom such as O as linking unit (L), and di- to hexavalent group with mol. weight of ≥150 linking to the B atom via L, (2) a compound obtained by crosslinking of a multiarm polymer of B(XRY)3 type [X = heteroatom; R = divalent group having mol. weight of >150 (e.g., polyoxyethylene group); Y = polymerizable functional group], (3) a high-mol. compound bearing B atom preferably on side chain end or main chain end, and (4) high-mol. compound containing tetravalent B. The polymer electrolytes with improved charge-carrying ion capacities are obtained by mixing one or more types of the polymers above with an electrolyte salt such as a lithium salt and an aprotic solvent, e.g., carbonates, lactones, ether, etc., and can be used in batteries or capacitors . Thus, coupling a diol derived from ethylene oxide ring opening reaction with borane gave a 3-arm polymer, 1 g of which was combined with LiBF4 at 1 mol/kg and 2.3 g γ-butyrolactone and cast coated on a glass surface to give a film of polymer electrolyte.

IC ICM C08G0079-08
ICS H01B0001-06; H01M0006-18; H01M0010-40

CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 52, 76

ST boron core dendrimer like conductive polymer electrolyte ; aprotic solvent polymer electrolyte boron contg polymer; battery manuf polymer electrolyte boron contg polymer; capacitor manuf polymer electrolyte boron contg polymer ; polyoxyethylene borane adduct multiarm polymer electrolyte; star block borane polyoxyethylene adduct polymer electrolyte; starburst borane polyoxyethylene adduct polymer electrolyte

IT Polyoxyalkylenes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, boron-containing multiarm or dendritic, crosslinked; manufacture of

B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT Polyoxyalkylenes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(boron-containing multiarm or dendritic, crosslinked; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT Capacitors
Secondary batteries
(lithium ion; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT Conducting polymers
Polymer electrolytes
(manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT Dendritic polymers
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT Boranes
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products with monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 329687-70-9DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, uses 7791-03-9, Lithium perchlorate 10377-51-2, Lithium iodide 14283-07-9, Lithium tetrafluoroborate (LiBF4) 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6 132404-42-3 132843-44-8
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(B-containing multiarm or dendritic polyoxyalkylene polymer complexes; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 110-71-4, 1,2-Dimethoxyethane 126-33-0, Sulfolane 646-06-0, 1,3-Dioxolane
RL: NUU (Other use, unclassified); USES (Uses)
(aprotic solvent; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 329352-15-0DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer

in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(comb, dendritic; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 329352-19-4DP, lithium complexes, bromate- or chlorate-containing
329352-20-7DP, lithium complexes, hexafluoroarsenate-containing
329352-21-8DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dendritic, from divergent approach; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 329352-16-1DP, lithium complexes, anion-containing 329352-17-2DP, lithium complexes, anion-containing 329352-18-3DP, lithium complexes, anion-containing
329352-22-9DP, lithium complexes, tetrafluoroborate-containing
329352-23-0DP, lithium complexes, hexafluorophosphate-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dendritic; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 67-56-1DP, Methanol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing, preparation 100-02-7DP, p-Nitrophenol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 108-86-1DP, Bromobenzene, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 108-95-2DP, Phenol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing, preparation 109-86-4DP, Ethylene glycol monomethyl ether, boron derives., lithium complexes, anion-containing 111-87-5DP, Octanol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 120-80-9DP, Catechol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 461-96-1DP, 3,5-Difluorobromobenzene, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 518-05-8DP, 1,8-Naphthalenedicarboxylic acid, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 1806-29-7DP, Biphenyl-2,2'-diol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 26570-48-9DP, Polyethylene glycol diacrylate, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 50986-11-3DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 77716-60-0DP, Polyethylene glycol monovinyl ether, boron derives., lithium complexes, anion-containing 328312-85-2DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-75-4DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-76-5DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-77-6DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes,

anion-containing 329687-79-8DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-80-1DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329688-10-0DP, boron derives., lithium complexes, anion-containing 329688-12-2DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329688-13-3DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 75-89-8DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 141-82-2DP, Malonic acid, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 771-61-9DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 920-66-1DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 2378-02-1DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 329358-74-9P 329358-75-0P 329358-76-1P 329687-86-7DP, boron derives., lithium containing 329688-14-4P 329688-15-5P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 9051-31-4D, Polyethylene glycol monoacrylate homopolymer, lithium complexes, anion-containing
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(multiarm; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 26403-58-7DP, Polyethylene glycol monoacrylate, boron derives., lithium complexes, anion-containing 39420-45-6DP, Polypropylene glycol monomethacrylate, boron derives., lithium complexes, anion-containing 329687-72-1DP, boron derives., lithium complexes, anion-containing 329687-74-3DP, boron derives., lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optionally 3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 329687-81-2DP, boron derives., lithium containing 329687-82-3DP, boron derives., lithium containing 329687-83-4DP, boron derives., lithium containing 329688-16-6DP, boron derives., lithium containing
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optionally 3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)

IT 7789-24-4, Lithium fluoride, uses

RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(B-containing multiarm or dendritic polyoxyalkylene polymer complexes; manufacture of B-containing ionically conductive polymers useful for polymeric electrolytes and elec. devices)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 51 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:110145 HCAPLUS Full-text
DN 134:165661
TI Ambient temperature, rechargeable cells with metal salt-based electrodes and a system of cell component materials for use therein
IN Liu, Changle
PA USA
SO U.S., 71 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6187479	B1	20010213	US 1998-36145	19980306 <--
PRAI US 1998-36145		19980306 <--		

AB A rechargeable battery or cell is disclosed in which the electrode active material consists of at least one nonmetallic compound or salt of the electropos. species on which the cell is based, and the electrolyte or electrolyte solvent consists predominantly of a halogen-bearing or chalcogen-bearing covalent compound such as SOCl2 or SO2Cl2. Also disclosed are cell component materials which include electrodes that consist primarily of salts of the cell electropos. species and chemical compatible electrolytes. These latter electrolytes include several newly discovered ambient temperature molten salt systems based on the AlCl3--PCl5 binary and the AlCl3--PCl5--PCl3 ternaries.
IC H01M0010-10; H01M0006-22
INCL 429300000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery ambient temp rechargeable
IT Secondary batteries
(ambient temperature rechargeable cells with metal salt-based electrodes)
IT Alkaline earth salts
Lewis acids
Refractory metal oxides
Transition metal chalcogenides
Transition metal halides
RL: DEV (Device component use); USES (Uses)
(ambient temperature rechargeable cells with metal salt-based electrodes)
IT Carbon fibers, uses

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(ambient temperature rechargeable cells with metal salt-based electrodes)

IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(binder; ambient temperature rechargeable cells with metal salt-based electrodes)

IT Halides
Halogen compounds
RL: DEV (Device component use); USES (Uses)
(halogen halides; ambient temperature rechargeable cells with metal salt-based electrodes)

IT Halides
RL: DEV (Device component use); USES (Uses)
(oxyhalides; ambient temperature rechargeable cells with metal salt-based electrodes)

IT 306-61-6, Magnesium thiocyanate 554-13-2, Lithium carbonate 556-65-0, Lithium thiocyanate 592-01-8, Calcium cyanide 1302-81-4, Aluminum sulfide Al2S3 1305-78-8, Calcia, uses 1307-96-6, Cobalt oxide coo, uses 1309-48-4, Magnesia, uses 1313-59-3, Sodium oxide, uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 1314-62-1, Vanadium pentoxide, uses 1317-38-0, Copper oxide cuo, uses 1317-39-1, Copper oxide cu2o, uses 1344-28-1, Alumina, uses 1344-43-0, Manganese oxide mno, uses 1345-25-1, Iron oxide feo, uses 2092-16-2, Calcium thiocyanate 2363-79-3, Lithium cyanate 2408-36-8, Lithium cyanide 3982-91-0, Phosphorothioic trichloride 3999-98-2, Magnesium cyanate 4100-56-5, Magnesium cyanide 6860-10-2, Calcium cyanate 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-24-6, Strontium, uses 7440-42-8, Boron, uses 7440-44-0, Carbon, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses 7446-09-5, Sulfur dioxide, uses 7550-35-8, Lithium bromide 7647-14-5, Sodium chloride, uses 7681-49-4, Sodium fluoride, uses 7704-34-9D, Sulfur, halides, uses 7719-09-7, Thionyl chloride 7723-14-0, Phosphorus, uses 7784-16-9, Sodium tetrachloroaluminate 7786-30-3, Magnesium chloride, uses 7789-24-4, Lithium fluoride, uses 7791-25-5, Sulfuryl chloride 10034-81-8, Magnesium perchlorate 10043-52-4, Calcium chloride, uses 10361-37-2, Barium chloride, uses 12039-13-3, Titanium sulfide (TiS2) 12057-24-8, Lithia, uses 12068-85-8, Iron sulfide fes2 12136-58-2, Lithium sulfide 12597-68-1, Stainless steel, uses 13463-67-7, Titania, uses 13755-29-8, Sodium tetrafluoroborate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 18282-10-5, Tin dioxide 20548-54-3, Calcium sulfide cas 21651-19-4, Tin monoxide 39457-42-6, Lithium manganese oxide 324752-02-5 324752-03-6 324752-04-7 324752-05-8 324752-06-9 324752-07-0 324752-08-1 324752-09-2 324752-10-5 324752-11-6 324752-12-7 324752-13-8
RL: DEV (Device component use); USES (Uses)
(ambient temperature rechargeable cells with metal salt-based electrodes)

IT 9002-84-0, Ptfe 25322-69-4, Polypropylene oxide
RL: DEV (Device component use); USES (Uses)
(binder; ambient temperature rechargeable cells with metal salt-based electrodes)

IT 7447-41-8, Lithium chloride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon fibers treated with; ambient temperature rechargeable cells with metal salt-based electrodes)

IT 7719-12-2, Phosphorus trichloride
RL: DEV (Device component use); USES (Uses)
(system, aluminum chloride-; ambient temperature rechargeable cells with metal salt-based electrodes)
IT 10025-87-3, Phosphoric trichloride
RL: DEV (Device component use); USES (Uses)
(system, aluminum chloride-phosphorus pentachloride-; ambient temperature rechargeable cells with metal salt-based electrodes)
IT 10026-13-8, Phosphorus pentachloride
RL: DEV (Device component use); USES (Uses)
(system, aluminum chloride-phosphorus trichloride-; ambient temperature rechargeable cells with metal salt-based electrodes)
IT 7446-70-0, Aluminum chloride, uses
RL: DEV (Device component use); USES (Uses)
(system, phosphorus trichloride-; ambient temperature rechargeable cells with metal salt-based electrodes)
IT 7681-49-4, Sodium fluoride, uses
7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(ambient temperature rechargeable cells with metal salt-based electrodes)
RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

F—Na

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 52 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:911599 HCAPLUS Full-text
DN 134:74021
TI Batteries and their manufacture
IN Yoshida, Yasuhiro; Hiroi, Osamu; Hamano, Kouji; Takemura, Daigo; Aihara, Sigeru; Shiota, Hisashi; Aragane, Jun; Urushibata, Hiroaki; Murai, Michio; Inuzuka, Takayuki
PA Mitsubishi Denki Kabushiki Kaisha, Japan
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000079624	A1	20001228	WO 1999-JP3320	19990622 <--
W: CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE
EP 1115168 A1 20010711 EP 1999-925415 19990622 <--
R: DE, FR
US 20010006750 A1 20010705 US 2001-789555 20010222 <--
PRAI WO 1999-JP3320 W 19990622 <--

AB The batteries have an ion conductive layer, impregnated with an electrolyte solution containing a low mol. organic compound, between a cathode and an anode and an absorbent for the low mol. organic compound at the edge of the electrode-conductive layer stack in a package. The absorbent is a gel after absorbing the organic compound The batteries are prepared by stacking the electrodes and the ion conductive layer, inserting the stack and the absorbent in a package, sealing the package, and heating the battery at a predetd. temperature

IC ICM H01M0006-22
ICS H01M0010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST battery electrolyte org compd absorbent

IT Secondary batteries
(lithium; structure and manufacture of batteries containing absorbents for low mol. organic compds. in electrolyte solns.)

IT Zeolites (synthetic), uses
RL: DEV (Device component use); USES (Uses)
(structure and manufacture of batteries containing absorbents for low mol. organic compds. in electrolyte solns.)

IT 96-49-1, Ethylene carbonate 110-71-4, 1,2-Dimethoxyethane 7789-24-4, Lithium fluoride, uses 9002-88-4, Polyethylene 9003-39-8D, Polyvinylpyrrolidone, crosslinked 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); USES (Uses)
(structure and manufacture of batteries containing absorbents for low mol. organic compds. in electrolyte solns.)

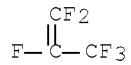
IT 7789-24-4, Lithium fluoride, uses 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: DEV (Device component use); USES (Uses)
(structure and manufacture of batteries containing absorbents for low mol. organic compds. in electrolyte solns.)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

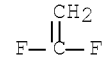
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 53 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:774123 HCAPLUS Full-text
DN 133:352634
TI Electrode materials having increased surface conductivity
IN Ravet, Nathalie; Besner, Simon; Simoneau, Martin; Vallee, Alain; Armand, Michel; Magnan, Jean-francois
PA Hydro-Quebec, Can.
SO Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1049182	A2	20001102	EP 2000-401207	20000502 <--
	EP 1049182	A3	20040211		
	EP 1049182	B1	20080102		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2270771	A1	20001030	CA 1999-2270771	19990430 <--
	CA 2307119	A1	20001030	CA 2000-2307119	20000428 <--
	CA 2625896	A1	20001030	CA 2000-2625896	20000428 <--
	JP 2001015111	A	20010119	JP 2000-132779	20000501 <--
	EP 1796189	A2	20070613	EP 2007-4289	20000502 <--
	EP 1796189	A3	20070620		
	R: DE, FR, GB, IT				
	US 20020195591	A1	20021226	US 2002-175794	20020621 <--
	US 6855273	B2	20050215		
	US 20040140458	A1	20040722	US 2003-740449	20031222 <--
	US 6962666	B2	20051108		
	US 20060060827	A1	20060323	US 2005-266339	20051104 <--
	US 7344659	B2	20080318		
	US 20080257721	A1	20081023	US 2008-33636	20080219 <--
	JP 2008186807	A	20080814	JP 2008-41303	20080222 <--
PRAI	CA 1999-2270771	A	19990430 <--		
	CA 2000-2307119	A3	20000428 <--		
	US 2000-560572	B1	20000428 <--		
	JP 2000-132779	A3	20000501 <--		
	EP 2000-401207	A3	20000502 <--		
	US 2002-175794	A3	20020621 <--		
	US 2003-740449	A1	20031222		
	US 2005-266339	A3	20051104		

AB Intercalated electrode materials comprising complex oxides, especially Li oxides, are prepared, suitable for redox reaction by exchange of alkali metal ions (especially Li) and electrons with an electrolyte. The complex oxide electrodes can be used in batteries, supercapacitors or electrochromic light moderators. The complex oxides have the general formula AaMmZzOoNnFf, where A is alkali metal (e.g., Li), M is ≥1 transition metal (e.g., Fe, Mn, V, Ti, Mo, Nb, Zn, W), Z is ≥1 nonmetal (e.g., P, S, Si, Se, As, Ge, B, Sn), and a,m,z,o,n,f are chosen for elec. neutrality. A conductive carbon coating is formed or deposited on the surface of the electrode material, e.g., by pyrolysis of an organic material, hydrocarbons or polymers, for increased surface conductivity

IC ICM H01M0004-58
ICS H01M0004-48; H01M0004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 57, 72, 76

ST electrode material carbon coated increased surface cond; battery electrode carbon coated increased surface cond; supercapacitor electrode carbon coated increased surface cond; electrochromic material carbon coated increased surface cond

IT Battery cathodes
Capacitor electrodes
Electrochromic materials
Electrodes
Primary batteries
Secondary batteries
Thermal decomposition
(electrode materials having increased surface conductivity)

IT Polymers, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface conductivity)

IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(electrolytes; electrode materials having increased surface conductivity)

IT Primary batteries
Secondary batteries
(lithium; electrode materials having increased surface conductivity)

IT Electrolytic capacitors
(supercapacitors; electrode materials having increased surface conductivity)

IT 7440-44-0P, Carbon, uses 15365-14-7P, Iron lithium phosphate (FeLiPO4) 30734-08-8P, Lithium manganese silicate Li2MnSiO4 39302-37-9P, Lithium titanium oxide 180984-63-8P, Lithium magnesium titanium oxide 252943-50-3P, Lithium vanadium phosphate silicate Li3.5V2(PO4)2.5(SiO4)0.5 304905-30-4P 304905-31-5P, Iron lithium fluoride (FeLi0.2F3) 304905-32-6P, Lithium manganese nitride oxide (Li3MnNO) 304905-33-7P 304905-34-8P 304905-35-9P, Lithium magnesium titanium oxide (Li3.5Mg0.5Ti4O12) 304905-36-0P, Iron lithium phosphorus silicon oxide 304905-37-1P 304905-38-2P, Iron lithium phosphorus fluoride oxide 304905-39-3P 304905-40-6P 304905-41-7P 304905-42-8P
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(electrode materials having increased surface conductivity)

IT 78-10-4 109-72-8, Butyl lithium, uses 546-68-9 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 1344-43-0, Manganese oxide MnO, uses 5931-89-5, Cobalt acetate 5965-38-8, Cobalt oxalate dihydrate 6108-17-4, Lithium acetate dihydrate 6156-78-1, Manganese acetate tetrahydrate 6556-16-7, Manganese oxalate dihydrate 7722-76-1, Ammonium dihydrogen phosphate 7783-50-8, Iron

fluoride FeF3 7803-55-6, Ammonium vanadate 9003-01-4, Polyacrylic acid 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 10028-22-5, Ferric sulfate 10102-24-6, Lithium silicate Li2SiO3 10377-52-3, Lithium phosphate Li3PO4 13463-10-0, Ferric phosphate dihydrate 14567-67-0, Vivianite 16674-78-5, Magnesium acetate tetrahydrate 25656-42-2, Lithium polyacrylate 26134-62-3, Lithium nitride 145673-07-0
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(electrode materials having increased surface conductivity)

IT 57-50-1, reactions 77-47-4, Hexachlorocyclopentadiene 98-00-0D, Furfuryl alcohol, derivs., polymers 100-42-5D, Styrene, derivs., polymers 107-13-1D, Acrylonitrile, derivs., polymers 108-05-4D, Vinyl acetate, derivs., polymers 108-95-2D, Phenol, derivs., polymers, reactions 115-07-1, 1-Propene, reactions 120-12-7, Anthracene, reactions 128-69-8D, 3,4,9,10-Perylenetetracarboxylic acid dianhydride, polymers with Jeffamine 600 198-55-0D, Perylene, derivs., polymers 630-08-0, Carbon monoxide, reactions 996-70-3, Tetrakis(dimethylamino)ethylene 1321-74-0D, Divinylbenzene, derivs., polymers 6674-22-2, DBU 9002-88-4 9002-89-5 9003-07-0, Polypropylene 9003-17-2D, Polybutadiene, derivs. 9004-34-6D, Cellulose, derivs., reactions 9004-35-7, Cellulose acetate 9005-25-8D, Starch, derivs., reactions 15133-82-1, Tetrakis(triphenylphosphine)nickel 25014-41-9, Polyacrylonitrile 51736-72-2, Polyvinylidene bromide 157889-12-8, Jeffamine ED 600-perylenetetracarboxylic acid dianhydride copolymer
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface conductivity)

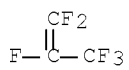
IT 75-05-8, Acetonitrile, uses 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 110-71-4 616-38-6, Dimethyl carbonate 646-06-0, Dioxolane 2832-49-7, Tetraethylsulfamide 21324-40-3, Lithium hexafluorophosphate LiPF6 25322-68-3 66950-70-7 90076-65-6, Lithium bis(trifluoromethanesulfonyl)imide
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(electrolytes; electrode materials having increased surface conductivity)

IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(electrode materials having increased surface conductivity)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

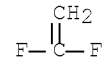
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

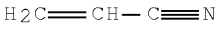
CRN 75-38-7
CMF C2 H2 F2



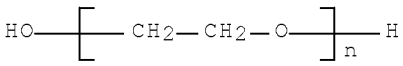
IT 25014-41-9, Polyacrylonitrile
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface conductivity)
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



IT 25322-68-3
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(electrolytes; electrode materials having increased surface conductivity)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 54 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:725905 HCAPLUS Full-text
DN 133:269464
TI Battery with an in-situ activation plated lithium anode
IN Neudecker, Bernd J.; Dudney, Nancy J.; Bates, John B.
PA Lockheed Martin Energy Research Corp., USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000060689	A1	20001012	WO 2000-US6997	20000317 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6168884 B1 20010102 US 1999-285326 19990402 <--
PRAI US 1999-285326 A1 19990402 <--

AB A thin-film rechargeable battery includes: a cathode film including a lithium transition metal oxide, an electrolyte film coupled to the cathode film, the electrolyte film being substantially nonreactive with oxidizing materials and with metallic lithium, an anode current collector coupled to the electrolyte film; and an overlying layer coupled to the anode current collector. The thin-film rechargeable battery is activated during an initial charge by electrochem. plating of a metallic lithium anode between the anode current collector and the electrolyte film. The plating of the anode during charging and the stripping of the anode layer during discharging are essentially reversible. Therefore, almost no diminishment of discharge capacity occurs, even after many discharge and charge cycles. Other advantages include no need for special packaging for shipping and handling. The battery eliminates the main drawbacks of the thin-film Li-ion battery (high capacity loss during the initial charge) and of the thin-film lithium battery (high air-sensitivity at all times, temperature limited to .apprx.100°, expensive preparation of the lithium anode). The battery survives processing conditions that exceed those of a solder reflow process without any signs of degradation

IC ICM A01M0010-36
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery in situ activation plated lithium anode
IT Battery anodes
Electrodeposition
(battery with in-situ activation plated lithium anode)
IT Noble metals
RL: DEV (Device component use); USES (Uses)
(cathode grids; battery with in-situ activation plated lithium anode)
IT Secondary batteries
(lithium, thin-film; battery with in-situ activation plated lithium anode)
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(overlying layer coupled to anode grid; battery with in-situ activation plated lithium anode)
IT 7439-89-6, Iron, uses 7439-91-0, Lanthanum, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-20-2, Scandium, uses 7440-32-6, Titanium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-58-6, Hafnium, uses 7440-62-2, Vanadium, uses 7440-65-5, Yttrium, uses 11116-16-8, Titanium nitride
RL: DEV (Device component use); USES (Uses)
(anode grid; battery with in-situ activation plated lithium anode)
IT 7439-93-2, Lithium, uses 10377-52-3, Lithiumphosphate li3po4 12031-65-1, Lithium nickel oxide linio2 12057-17-9, Lithium manganese oxide limn2o4 12190-79-3, Cobalt lithium oxide colio2
RL: DEV (Device component use); USES (Uses)
(battery with in-situ activation plated lithium anode)
IT 1304-28-5, Barium oxide bao, uses 1304-56-9, Beryllium oxide beo, uses 1305-78-8, Calcium oxide cao, uses 1309-48-4, Magnesia, uses 1312-81-8, Lanthana 1314-11-0, Strontium oxide sro, uses 1314-20-1,

Thoria, uses 1314-36-9, Yttria, uses 7440-25-7, Tantalum, uses 7440-33-7, Tungsten, uses 7440-41-7, Beryllium, uses 7440-67-7, Zirconium, uses 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, Ptfe 9002-88-4 10043-11-5, Boron nitride bn, uses 10377-51-2, Lithium iodide 12033-76-0, Silicon nitride oxide si2n2o 12033-89-5, Silicon nitride, uses 12060-08-1, Scandium oxide sc2o3 12169-03-8, Lithium yttrium oxide liyo2 12209-15-3, Lithium scandium oxide lisco2 12232-41-6, Beryllium lithium oxide be2li2o3 12355-58-7, Aluminum lithium oxide alli5o4 12384-10-0, Lithium zirconium oxide li8zro6 13453-84-4, Lithium silicate li4sio4 24304-00-5, Aluminum nitride 25722-33-2, Parylene 39449-52-0, Lithium silicate li8sio6 56320-64-0, Beryllium lithium oxide (BeLi4O3) 57349-02-7, Cerium lithium oxide celio2 184905-46-2, Lithium nitrogen phosphorus oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(overlying layer coupled to anode grid; battery with in-situ activation plated lithium anode)

IT 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(overlying layer coupled to anode grid; battery with in-situ activation plated lithium anode)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 55 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:529185 HCAPLUS Full-text
DN 133:107451
TI Surface modifications for carbon lithium intercalation anodes
IN Tran, Tri D.; Kinoshita, Kimio
PA The Regents of the University of California, USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6096454	A	20000801	US 1998-144167	19980831 <--

PRAI US 1998-144167 19980831 <--

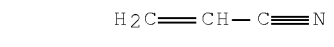
AB A prefabricated carbon anode containing predetd. amts. of passivating film components is assembled into a lithium-ion rechargeable battery. The modified carbon anode enhances the reduction of the irreversible capacity loss during the first discharge of a cathode-loaded cell. The passivating film components, such as Li2O and Li2CO3, of a predetd. amount effective for optimal passivation of carbon, are incorporated into carbon anode materials to produce dry anodes that are essentially free of battery electrolyte prior to battery assembly.

IC ICM H01M0010-24
INCL 429231800
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST carbon lithium intercalation anode battery

IT Polymers, uses
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(carbonaceous materials based on; surface modifications for carbon lithium intercalation anodes)
IT Secondary batteries
(lithium; surface modifications for carbon lithium intercalation anodes)
IT Carbon fibers, uses
RL: DEV (Device component use); USES (Uses)
(polyacrylonitrile-based; surface modifications for carbon lithium intercalation anodes)
IT Battery anodes
Passivation
(surface modifications for carbon lithium intercalation anodes)
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 7440-44-0, Carbon, uses 7782-42-5, Graphite, uses 25014-41-9D, Polyacrylonitrile, pyrolyzed 90076-65-6
RL: DEV (Device component use); USES (Uses)
(surface modifications for carbon lithium intercalation anodes)
IT 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 7447-41-8, Lithium chloride, reactions 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, reactions 10377-51-2, Lithium iodide 12057-24-8, Lithium oxide li2o, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(surface modifications for carbon lithium intercalation anodes)
IT 25014-41-9D, Polyacrylonitrile, pyrolyzed
RL: DEV (Device component use); USES (Uses)
(surface modifications for carbon lithium intercalation anodes)
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



IT 7789-24-4, Lithium fluoride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(surface modifications for carbon lithium intercalation anodes)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

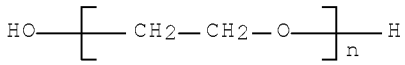
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 56 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:413486 HCAPLUS Full-text
DN 133:122727
TI New approaches to the design of polymer and liquid

electrolytes for lithium batteries
AU McBreen, J.; Lee, H. S.; Yang, X. Q.; Sun, X.
CS Materials and Chemical Sciences Division, Department of Applied Science, Brookhaven National Laboratory, Upton, NY, 11973, USA
SO Journal of Power Sources (2000), 89(2), 163-167
CODEN: JPSODZ; ISSN: 0378-7753
PB Elsevier Science S.A.
DT Journal
LA English
AB All non-aqueous lithium battery electrolytes are Lewis bases that interact with cations. Unlike water, they do not interact with anions. The result is a high degree of ion pairing and the formation of triplets and higher aggregates. This decreases the conductivity and the lithium ion transference, and results in polarization losses in batteries . Approaches that have been used to increase ion dissociation in poly (ethylene oxide) (PEO)-based electrolytes are the use of salts with low lattice energy, the addition of polar plasticizers to the polymer, and the addition of cation complexing agents such as crown ethers or cryptands. Complexing of the anions is a more promising approach, since it should increase both ion dissociation and the lithium transference. At Brookhaven National Laboratory (BNL) we have synthesized two new families of neutral anion complexing agents, each based on Lewis acid centers. One is based on electron deficient nitrogen sites on substituted aza-ethers, wherein the hydrogen on the nitrogen is replaced by electron withdrawing groups such as CF3SO3-. The other is based on electron deficient boron sites on borane or borate compds. with various fluorinated aryl or alkyl groups. Some of the borane-based anion receptors can promote the dissoln. of LiF in several solvents. Several of these compds., when added in equivalent amts., produce 1.2 M LiF solns. in DME, an increase in solubility of LiF by six orders of magnitude. Some of these LiF electrolytes have conductivities as high as 6+10-3 S cm-1. The LiF electrolytes with borane anion acceptors in PC:EC:DEC solvents have excellent electrochem. stability. This has been demonstrated in small Li/LiMn2O4 cells.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72
ST lithium battery polymer liq electrolyte; aza crown ether anion receptor electrolyte
IT Battery electrolytes
(design of polymer and liquid electrolytes for lithium batteries)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(design of polymer and liquid electrolytes for lithium batteries)
IT 856-46-2 1095-03-0 1109-15-5 6919-80-8 7447-41-8, Lithium chloride, uses 7789-24-4, Lithium fluoride (LiF), uses 7791-03-9, Lithium perchlorate 12057-17-9, Lithium manganese oxide (LiMn2O4) 25322-68-3, Poly(ethylene oxide) 32766-52-2 33454-82-9, Lithium trifluoromethanesulfonate 96455-17-3 146355-12-6 163857-69-0 163857-70-3 163892-67-9 163892-68-0 163892-69-1 163892-70-4 163892-71-5 210834-28-9 210834-35-8 210834-37-0 210834-40-5 210834-42-7
RL: DEV (Device component use); USES (Uses)
(design of polymer and liquid electrolytes for lithium batteries)
IT 7789-24-4, Lithium fluoride (LiF), uses 25322-68-3, Poly(ethylene oxide)
RL: DEV (Device component use); USES (Uses)
(design of polymer and liquid electrolytes for

lithium batteries)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 57 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:398860 HCAPLUS Full-text
DN 133:61294
TI New polymer and liquid electrolytes for lithium batteries
AU McBreen, J.; Lee, H. S.; Yang, X. Q.; Sun, X.
CS Materials and Chemical Sciences Division Department of Applied Science, Brookhaven National Laboratory, Upton, NY, 11973, USA
SO Proceedings - Electrochemical Society (2000), 99-25, 494-503
CODEN: PESODO; ISSN: 0161-6374
PB Electrochemical Society
DT Journal
LA English
AB All non-aqueous lithium battery electrolytes are Lewis bases that interact with cations. Unlike water, they do not interact with anions. The result is a high degree of ion pairing and the formation of triplets and higher aggregates. This decreases the conductivity and the lithium ion transference and results in polarization losses in batteries . Approaches that have been used to increase ion dissociation in PEO based electrolytes are the use of salts with low lattice energy, the addition of polar plasticizers to the polymer, and the addition of cation complexing agents such as crown ethers or cryptands. Complexing of the anions is a more promising approach since it should increase both ion dissociation and the lithium transference. At Brookhaven National Laboratory (BNL) we have synthesized two new families of neutral anion complexing agents, each based on Lewis acid centers. One is based on electron deficient nitrogen sites on substituted aza-ethers, wherein the hydrogen on the nitrogen is replaced by electron withdrawing groups such as CF3SO3-. The other is based on electron deficient boron sites on borane or borate compds. with various fluorinated aryl or alkyl groups. Some of the borane based anion receptors can promote the dissoln. of LiF in several solvents. Several of these compds., when added in equivalent amts., produce 1.2 M LiF solns. in DME, an increase in solubility of LiF by six orders of magnitude. Some of these LiF electrolytes have conductivities as high as 6+10-3 Scm-1. The LiF electrolytes with borane anion acceptors in PC:EC:DEC solvents have excellent electrochem. stability. This has been demonstrated in small Li/LiMn2O4 cells.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 72

ST polymer liq electrolyte lithium battery; aza crown ether anion receptor electrolyte

IT Battery electrolytes
(polymer and liquid electrolytes for lithium batteries)

IT 856-46-2 1095-03-0 1109-15-5 6919-80-8 32766-52-2 96455-17-3
139494-70-5 163857-69-0 163857-70-3 163892-67-9 163892-68-0
163892-69-1 163892-70-4 163892-71-5 210834-28-9 210834-35-8
210834-37-0 210834-40-5 210834-42-7
RL: DEV (Device component use); USES (Uses)
(polymer and liquid electrolytes for lithium batteries)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 58 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:260780 HCAPLUS Full-text
DN 132:267631
TI High performance lithium ion polymer batteries
IN Xue, Jiay Simon
PA Ultralife Batteries, Inc., USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000022686	A1	20000420	WO 1998-US21532	19981013 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9898005	A	20000501	AU 1998-98005	19981013 <--
AU 773531	B2	20040527		
EP 1135816	A1	20010926	EP 1998-952262	19981013 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2002527873	T	20020827	JP 2000-576502	19981013 <--
NZ 511070	A	20030926	NZ 1998-511070	19981013 <--
MX 2001PA03604	A	20021023	MX 2001-PA3604	20010409 <--
PRAI WO 1998-US21532	A	19981013 <--		

AB Cells, especially solid state rechargeable lithium ion-containing cells having significantly improved cell shelf-life, cycle life and reduced impedance growth, have cathodes comprising a significant amount of a substantially insol. lithium-containing compound such as Li2CO3 and Li2B4O7. In another embodiment, the substantially insol. lithium-containing compound is further dispersed within at least one of the anode and separator.

IC ICM H01M0004-36
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium ion polymer battery
IT Battery anodes
Battery cathodes
Secondary battery separators
(high performance lithium ion polymer batteries)
IT Carbon black, uses

RL: MOA (Modifier or additive use); USES (Uses)
(high performance lithium ion polymer batteries)

IT Secondary batteries
(lithium; high performance lithium ion polymer batteries)

IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 12057-17-9, Lithium manganese oxide limn2o4 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 39457-42-6, Lithium manganese oxide
RL: DEV (Device component use); USES (Uses)
(high performance lithium ion polymer batteries)

IT 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, uses 10102-24-6, Lithium silicate 10377-48-7, Lithium sulfate 10377-51-2, Lithium iodide 10377-52-3, Lithium phosphate li3po4 12007-41-9, Boron lithium oxide b3lio5 12007-60-2, Lithium borate 12008-40-1, Boron lithium oxide b8li2o13 12057-24-8, Lithia, uses 12057-29-3, Lithium phosphide li3p 12136-60-6, Lithium selenide 12259-48-2, Lithium phosphide lip 13453-69-5, Boron lithium oxide blio2 13453-84-4, Lithium silicate 13453-87-7, DiLithium sulfite 13568-46-2 13762-75-9, Lithium phosphate lipo3 13774-55-5, Lithium borate li4b2o5 13774-56-6, Lithium borate li3bo3 13843-41-9, Lithium phosphate li4p2o7 14013-62-8, Lithium selenate 16150-51-9, Lithium silicon oxide (Li2Si3O7) 26134-62-3, Lithium nitride li3n 34669-40-4, Lithium dithionate 55575-96-7, Lithium silicide li13si4 61812-08-6, Lithium silicide li21si8
RL: MOA (Modifier or additive use); USES (Uses)
(high performance lithium ion polymer batteries)

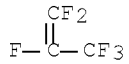
IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: DEV (Device component use); USES (Uses)
(high performance lithium ion polymer batteries)

RN 9011-17-0 HCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

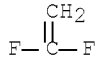
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



IT 7789-24-4, Lithium fluoride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(high performance lithium ion polymer batteries)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 59 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:95943 HCAPLUS Full-text
DN 132:125353
TI Boron compounds as anion binding agents for nonaqueous battery electrolytes
IN Lee, Hung Sui; Yang, Xia-oing; McBreen, James; Xiang, Caili
PA Brookhaven Science Associates, USA
SO U.S., 11 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6022643	A	20000208	US 1997-986846	19971208 <--
US 6352798	B1	20020305	US 2000-492569	20000127 <--
PRAI US 1997-986846	A2	19971208 <--		

OS MARPAT 132:125353
AB Novel fluorinated boron-based compds. which act as anion receptors in nonaq. battery electrolytes are provided. The anion receptor is a compound of formula Q3B, where Q is a F-bearing moiety selected from the group of (CF3)2CHO, (CF3)2C(C6H5)O, (CF3)3CO, FC6H4O, F2C6H3O, F4C6HO, C6F5O, CF3C6H4O, and (CF3)2C6H3O. When added to nonaq. battery electrolytes, the fluorinated boron-based compds. of the invention enhance ionic conductivity and cation transference number of nonaq. electrolytes. The fluorinated boron-based anion receptors include borane and borate compds. bearing different fluorinated alkyl and aryl groups.
IC ICM H01M0006-14
INCL 429324000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery electrolyte fluorinated boron based anion receptor
IT Battery electrolytes
Ionic conductivity
(boron compds. as anion binding agents for nonaq. battery electrolytes)
IT Intercalation compounds
Polyanilines
Polyoxyalkylenes, uses
Transition metal chalcogenides
Transition metal oxides
RL: DEV (Device component use); USES (Uses)
(boron compds. as anion binding agents for nonaq. battery electrolytes)
IT Oxides (inorganic), uses

RL: DEV (Device component use); USES (Uses)
(intercalation compound with lithium; boron compds. as anion binding agents for nonaq. battery electrolytes)

IT Secondary batteries
(lithium; boron compds. as anion binding agents for nonaq. battery electrolytes)

IT Polysulfides
RL: DEV (Device component use); USES (Uses)
(organic; boron compds. as anion binding agents for nonaq. battery electrolytes)

IT Lithium alloy
RL: DEV (Device component use); USES (Uses)
(boron compds. as anion binding agents for nonaq. battery electrolytes)

IT 75-05-8, Acetonitrile, uses 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 107-31-3, Methyl formate 108-32-7, Propylene carbonate 109-87-5, Dimethoxymethane 109-99-9, uses 110-71-4, 1,2-Dimethoxyethane 115-10-6, Dimethyl ether 126-33-0, Sulfolane 534-22-5, 2-Methylfuran 616-38-6, Dimethyl carbonate 646-06-0, 1,3-Dioxolane 872-50-4, uses 1072-47-5, 1,3-Dioxolane, 4-Methyl 1072-71-5, 2,5-Dimercapto-1,3,4-thiadiazole 2923-17-3, Lithium trifluoroacetate 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound with carbon, uses 7440-44-0D, Carbon, intercalation compound with lithium, uses 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, uses 7791-03-9 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 10377-51-2, Lithium iodide 12031-65-1, Lithium nickel oxide linio2 12057-17-9, Lithium manganese oxide limn2o4 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide colio2 12201-18-2, Lithium molybdenum sulfide limos2 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 19836-78-3, 3-Methyl-2-oxazolidinone 21324-40-3, Lithium hexafluorophosphate 25014-41-9, Polyacrylonitrile 25233-30-1, Polyaniline 25322-68-3 25948-29-2, Carbon disulfide, homopolymer 29935-35-1, Lithium hexafluoroarsenate 39448-96-9, Graphite lithium 55326-82-4, Lithium titanium sulfide litis2 55886-04-9, Lithium niobium selenide Li3NbSe3 87187-79-9 87442-01-1, Benzoic acid, pentafluoro-, lithium salt 138187-48-1, Lithium vanadium oxide Li1,2V2O5 256345-13-8, Lithium vanadium oxide (Li2.5V6O13)
RL: DEV (Device component use); USES (Uses)
(boron compds. as anion binding agents for nonaq. battery electrolytes)

IT 121-43-7 659-18-7 755-53-3 856-46-2 1095-03-0 1109-15-5 6919-80-8 32766-52-2 146355-12-6 210834-28-9 210834-35-8 210834-37-0 210834-40-5 210834-42-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(boron compds. as anion binding agents for nonaq. battery electrolytes)

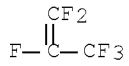
IT 7789-24-4, Lithium fluoride, uses 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 25014-41-9, Polyacrylonitrile 25322-68-3
RL: DEV (Device component use); USES (Uses)
(boron compds. as anion binding agents for nonaq. battery electrolytes)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

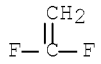
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

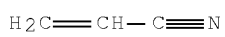
CRN 75-38-7
CMF C2 H2 F2



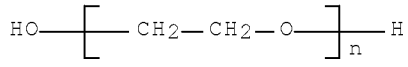
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 60 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:471859 HCAPLUS Full-text

DN 131:90279
TI High performance lithium ion polymer cells and batteries
IN Xue, Jiayu Simon
PA UltraLife Batteries, Inc., USA
SO U.S., 22 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5928812	A	19990727	US 1997-929486	19970915 <--
PRAI US 1996-31174P	P	19961118 <--		

AB Cells, especially solid state rechargeable lithium ion-containing cells having significantly improved cell shelf-life, cycle life and reduced impedance growth are disclosed. A non-cathode active lithium compound containing one or more nonmetallic elements, such as Li2CO3 and Li2B4O7, substantially insol. in the nonaq. electrolyte of the cell, is dispersed throughout the cathode and is further dispersed within at least one of the anode and separator.

IC ICM H01M0010-08
INCL 429304000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium polymer battery
IT Carbon black, uses
RL: DEV (Device component use); USES (Uses)
(high performance lithium ion polymer cells and batteries)
IT Secondary batteries
(lithium; high performance lithium ion polymer cells and batteries)
IT 96-49-1, Ethylene carbonate 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 616-38-6, Dimethyl carbonate 7440-44-0, Carbon, uses 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7789-24-4, Lithium fluoride, uses 7791-03-9, Lithium perchlorate 10102-24-6, Lithium silicate li2sio3 10377-48-7, DiLithium sulfate 10377-51-2, Lithium iodide 10377-52-3, Lithium phosphate li3po4 12007-41-9, Boron lithium oxide b3lio5 12007-60-2, Lithium tetraborate 12008-40-1, Boron lithium oxide (B8Li2O13) 12057-24-8, Lithium oxide li2o, uses 12057-29-3, Lithium phosphide li3p 12136-60-6, Lithium selenide 12259-48-2, Lithium phosphide lip 13453-69-5, Boron lithium oxide blio2 13453-84-4, Lithium silicate li4sio4 13453-87-7, DiLithium sulfite 13568-46-2, Lithium silicate (Li2Si2O5) 13762-75-9, Lithium phosphate lipo3 13774-55-5, Lithium borate Li4B2O5 13774-56-6, Lithium borate Li3BO3 13843-41-9, Lithium phosphate li4p2o7 14283-07-9, Lithium tetrafluoroborate 15593-52-9, Selenic acid, dilithium salt 16150-51-9, Lithium silicate li2si3o7 21324-40-3, Lithium hexafluorophosphate 26134-62-3, Lithium nitride li3n 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 34669-40-4, Lithium dithionate 39457-42-6, Lithium manganese oxide 55575-96-7, Lithium silicide li13si4 61812-08-6, Lithium silicide li21si8 90076-65-6 132843-44-8
RL: DEV (Device component use); USES (Uses)
(high performance lithium ion polymer cells and batteries)
IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(high performance lithium ion polymer cells and batteries)

IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(high performance lithium ion polymer cells and batteries)

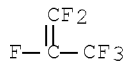
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(high performance lithium ion polymer cells and batteries)

RN 9011-17-0 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (CA INDEX NAME)

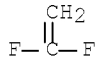
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 61 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:465069 HCAPLUS Full-text
DN 131:274075
TI Developing stable, low impedance interface between metallic lithium anode and polyacrylonitrile-based polymer gel electrolyte by preliminary voltage cycling
AU Sotomura, Tadashi; Adachi, Kinichi; Taguchi, Makoto; Iwaku, Masahiro; Tatsuma, Tetsu; Oyama, Noboru
CS Central Research Laboratories, Matsushita Electric Industrial, Moriguchi,

Osaka, Japan
SO Journal of Power Sources (1999), 81-82, 192-199
CODEN: JPSODZ; ISSN: 0378-7753
PB Elsevier Science S.A.
DT Journal
LA English

AB The metallic lithium anode surface facing to a gel-like polyacrylonitrile polymer electrolyte (gel-SPE) was tried to be stabilized by preliminary voltage cycling. Through voltage cycling from +0.5 to -0.5 V at a scan rate of 10 mV/s at 20°C immediately after assembling a cell having a configuration of Li/gel-SPE/Li, the cell impedance at 100 Hz was kept below 100 Ω for the cells with a gel-SPE containing LiBF4 over 230 days at 20°C. The cells with a gel-SPE containing LiPF6 required preliminary voltage cycling at a voltage higher than 0.5 V and at an elevated temperature of 60°C to obtain and keep a lower impedance during storage. The impedance at 10 kHz which represented the bulk resistance of gel -SPE was almost the same for both cells and constant during storage, around 15 Ω. This was confirmed in the cell of Li/gel-SPE/DMcT+polyaniline composite cathode (DMcT=2,5-dimercapto-1,3,4-thiadiazole). The metallic lithium anode surface before and after the voltage cycling was subjected to XPS (XPS) anal.: Li2CO3 disappeared and LiF-LiOH remained in the surface layer after the voltage cycling for the LiBF4 gel-SPE cell while for the LiPF6 gel-SPE cell, a dense and thin LiF surface layer was broken into a thicker LiF -LiOH layer. The layer consisting of mainly LiF and LiOH which was formed by preliminary voltage cycling was considered to stabilize the interface.

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72
ST impedance stable interface lithium anode electrolyte;
polyacrylonitrile gel electrolyte
battery anode interface
IT Battery electrolytes
Electric impedance
Electric resistance
(developing stable, low impedance interface between metallic lithium anode and polyacrylonitrile-based polymer gel electrolyte by preliminary voltage cycling)
IT 554-13-2, Carbonic acid, dilithium salt 1072-71-5, 2,5-Dimercapto-1,3,4-thiadiazole 7789-24-4, Lithium fluoride (LiF), uses 14283-07-9, Borate(1-), tetrafluoro-, lithium 21324-40-3, Phosphate(1-), hexafluoro-, lithium 25014-41-9, Polyacrylonitrile
RL: DEV (Device component use); USES (Uses)
(developing stable, low impedance interface between metallic lithium anode and polyacrylonitrile-based polymer gel electrolyte by preliminary voltage cycling)
IT 7789-24-4, Lithium fluoride (LiF), uses 25014-41-9, Polyacrylonitrile
RL: DEV (Device component use); USES (Uses)
(developing stable, low impedance interface between metallic lithium anode and polyacrylonitrile-based polymer gel electrolyte by preliminary voltage cycling)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 62 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:163137 HCAPLUS Full-text
DN 130:239955
TI Method for producing anode of non-aqueous electrolytic battery and method for producing non-aqueous electrolytic battery
IN Okada, Mikio; Hazumi, Takeshi; Yasuda, Hideo
PA Japan Storage Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11067192	A	19990309	JP 1997-227258	19970808 <--
	CN 1209659	A	19990303	CN 1998-103549	19980807 <--
	EP 905804	A2	19990331	EP 1998-114939	19980807 <--
	EP 905804	A3	19991208		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6676713	B1	20040113	US 1998-131675	19980810 <--
PRAI	JP 1997-227257	A	19970808	<--	
	JP 1997-227258	A	19970808	<--	
	JP 1997-335044	A	19971118	<--	

AB This anode comprises Cu as a collector and containing a polymer -containing mixed liquid and is treated with water containing P or a P compound The P compound may be phosphoric acids. A non-aqueous electrolytic battery is provided with the anode. Even in the case the anode is immersed in water for forming evenly spherical pores in the polymer, deterioration of the performance of the anode due to corrosion of Cu collector by water can effectively be prevented by the treatment with P or a P compound By using economical water, anode manufacturing cost is lowered.
IC ICM H01M0004-04
ICS H01M0004-62; H01M0004-66; H01M0006-14; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST anode phosphorus treatment copper collector battery
IT Phosphates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(anode treated with; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)
IT Fluoropolymers, uses

RL: DEV (Device component use); USES (Uses)
(cathode containing; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

IT Primary batteries
(non-aqueous electrolytic type; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

IT Battery anodes
(of non-aqueous electrolytic battery; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

IT 512-56-1 2466-09-3, Pyrophosphoric acid 7320-34-5, Potassium pyrophosphate 7558-79-4, Disodium hydrogenphosphate 7558-80-7, Sodium dihydrogenphosphate 7601-54-9, Sodium phosphate 7664-38-2, Phosphoric acid, uses 7722-76-1, Ammonium dihydrogenphosphate 7722-88-5 7757-86-0, Magnesium hydrogenphosphate 7757-87-1 7758-11-4, Dipotassium hydrogenphosphate 7758-16-9 7758-23-8, Calcium dihydrogenphosphate 7758-29-4, Sodium tripolyphosphate 7758-87-4, Calcium phosphate 7778-53-2, Potassium phosphate 7778-77-0, Potassium dihydrogenphosphate 7782-95-8, Sodium dihydrogenhypophosphate 7783-28-0 7785-21-9, Ammonium magnesium phosphate 7785-84-4, Sodium trimetaphosphate 10058-44-3, Ferric pyrophosphate 10343-62-1, Metaphosphoric acid 10377-52-3, Lithium phosphate 12185-10-3, Yellow phosphorus, uses 12357-31-2, Sodium fluoride phosphate (Na4F(PO4)) 13011-54-6, Ammonium sodium hydrogenphosphate 13092-66-5, Magnesium dihydrogenphosphate 13446-44-1, Manganese dihydrogenpyrophosphate 13453-80-0, Lithium dihydrogenphosphate 13530-50-2, Aluminum dihydrogenphosphate 13721-43-2, Tetrasodium hypophosphate 13765-35-0, Ammonium pyrophosphate 14691-79-3, Trisodium hypophosphate 14691-84-0, Dipotassium pyrophosphate 15823-35-5, Hydrazinium dihydrogenphosphate 18266-28-9 18718-07-5, Manganese phosphate Mn(H2PO4)2 54390-90-8, Ammonium hypophosphate 183896-43-7 221354-68-3 221354-70-7 221354-72-9
RL: NUU (Other use, unclassified); USES (Uses)
(anode treated with; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

IT 24937-79-9, Poly(vinylidene fluoride)
RL: DEV (Device component use); USES (Uses)
(cathode containing; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

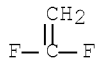
IT 7440-50-8, Copper, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(collector of cathode; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

IT 24937-79-9, Poly(vinylidene fluoride)
RL: DEV (Device component use); USES (Uses)
(cathode containing; battery anode comprising copper collector with high corrosion resistance and non-aqueous electrolytic battery comprising the anode)

RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 63 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:163136 HCAPLUS Full-text
DN 130:239954
TI Method for producing cathode of non-aqueous electrolytic battery and method for producing non-aqueous electrolytic battery comprising the cathode
IN Okada, Mikio; Hazumi, Takeshi; Yasuda, Hideo
PA Japan Storage Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11067191	A	19990309	JP 1997-227257	19970808 <--
	CN 1209659	A	19990303	CN 1998-103549	19980807 <--
	EP 905804	A2	19990331	EP 1998-114939	19980807 <--
	EP 905804	A3	19991208		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6676713	B1	20040113	US 1998-131675	19980810 <--
PRAI	JP 1997-227257	A	19970808 <--		
	JP 1997-227258	A	19970808 <--		
	JP 1997-335044	A	19971118 <--		

AB This cathode comprises an Al collector and a polymer-containing mixed liquid and is treated with water containing P or a P compound The P compound may be phosphoric acids. A non-aqueous electrolytic battery is provided with the obtained cathode. Even in the case the cathode is immersed in water for forming evenly spherical pores in the polymer of the cathode, deterioration of the performance of the cathode due to corrosion of Al by water can effectively be prevented. By using economical water, cathode manufacturing cost is lowered.
IC ICM H01M0004-04
ICS H01M0004-62; H01M0004-66; H01M0006-16; H01M0010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST cathode phosphorus treatment aluminum collector battery
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(cathode containing; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)
IT Phosphates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cathode treated with; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)
IT Primary batteries
(non-aqueous electrolytic type; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the

cathode)

IT Battery cathodes
(of non-aqueous electrolytic battery; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)

IT 24937-79-9, Poly(vinylidene fluoride)
RL: DEV (Device component use); USES (Uses)
(cathode containing; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)

IT 512-56-1 2466-09-3, Pyrophosphoric acid 7320-34-5, Potassium pyrophosphate 7558-79-4, Disodium hydrogenphosphate 7558-80-7, Sodium dihydrogenphosphate 7601-54-9, Sodium phosphate 7664-38-2, Phosphoric acid, uses 7722-76-1, Ammonium dihydrogenphosphate 7722-88-5 7757-86-0, Magnesium hydrogenphosphate 7757-87-1, Trimagnesium diphosphate 7758-11-4, Dipotassium hydrogenphosphate 7758-16-9 7758-23-8, Calcium dihydrogenphosphate 7758-29-4, Sodium tripolyphosphate 7758-87-4, Calcium phosphate 7778-53-2, Potassium phosphate 7778-77-0, Potassium dihydrogenphosphate 7782-95-8, Sodium dihydrogenhypophosphate 7783-28-0 7785-21-9, Ammonium magnesium phosphate 7785-84-4, Sodium trimetaphosphate 10343-62-1, Metaphosphoric acid 10377-52-3, Lithium phosphate 10402-25-2, Iron pyrophosphate 12185-10-3, Yellow phosphorus, uses 12357-31-2, Sodium fluoride phosphate (Na4F(PO4)) 13011-54-6, Ammonium sodium hydrogenphosphate 13092-66-5, Magnesium dihydrogenphosphate 13446-44-1, Manganous pyrophosphate 13453-80-0, Lithium dihydrogenphosphate 13530-50-2, Aluminum dihydrogenphosphate 13721-43-2, Tetrasodium hypophosphate 13765-35-0, Ammonium pyrophosphate 14691-79-3, Trisodium hypophosphate 14691-84-0, Dipotassium pyrophosphate 15823-35-5, Hydrazinium dihydrogenphosphate 18266-28-9 18718-07-5 54390-90-8, Ammonium hypophosphate 183896-43-7 221354-68-3 221354-70-7 221354-72-9
RL: NUU (Other use, unclassified); USES (Uses)
(cathode treated with; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)

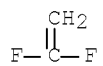
IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(collector of cathode; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)

IT 24937-79-9, Poly(vinylidene fluoride)
RL: DEV (Device component use); USES (Uses)
(cathode containing; battery cathode comprising aluminum collector with high corrosion resistance and non-aqueous electrolytic battery comprising the cathode)

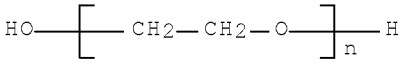
RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 64 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:705401 HCAPLUS Full-text
DN 130:27130
TI Conductivity and parametric studies of a (PEO +(glass)(15Na2O-15NaF-70B2O3)) cell
AU Jaipal Reddy, M.; Sreekanth, T.; Subba Rao, U. V.
CS Department of Physics, Osmania University, Hyderabad, 500 007, India
SO Journal of Power Sources (1998), 76(1), 30-35
CODEN: JPSODZ; ISSN: 0378-7753
PB Elsevier Science S.A.
DT Journal
LA English
AB Ion conducting polymer electrolyte films based on poly(ethylene oxide) (PEO) complexed with a glass (15Na2O-15NaF-70B2O3) are prepared by a solution-cast technique. The complexation of the glass with PEO is confirmed by X-ray diffraction anal. DC conductivity in the temperature range 303-373 K and transference number measurements are performed in order to investigate the charge transport in the polymer electrolyte system. The conductivity of the (PEO+glass) electrolyte is about 104 times larger than that of pure PEO at room temperature The transference number data show that the charge transport in this polymer electrolyte system is predominantly due to ions. Using these polymer electrolytes, solid-state electrochem. cells are fabricated. Various parameters associated with these cells are evaluated and compared with those of other reported cells.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 57
ST battery electrolyte polyethylene oxide glass
IT Battery electrolytes
Electric conductivity
Primary batteries
(conductivity and parametric studies of PEO+glass cell)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(conductivity and parametric studies of PEO+glass cell)
IT Borate glasses
RL: DEV (Device component use); USES (Uses)
(sodium borate, fluoroborate; conductivity and parametric studies of PEO+glass cell)
IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(conductivity and parametric studies of PEO+glass cell)
IT 1303-86-2, Boron oxide b2o3, uses 1313-59-3, Sodium oxide, uses 7681-49-4, Sodium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(glass; conductivity and parametric studies of PEO+glass cell)
IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(conductivity and parametric studies of PEO+glass cell)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7681-49-4, Sodium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(glass; conductivity and parametric studies of PEO+glass cell)
RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

F—Na

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 65 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:395225 HCAPLUS Full-text
DN 129:69855
OREF 129:14447a,14450a
TI Mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix
AU Aihara, Yuichi; Hayamizu, Kikuko; Arai, Shigemasa; Price, William S.
CS Res. Deve. Cent., Yuasa Corp., Takatsuki, Japan
SO Yuasa Jiho (1998), 84, 5-11
CODEN: YUJIAX; ISSN: 0513-6342
PB Yuasa Koporeshon
DT Journal
LA Japanese
AB The ionic conduction mechanism of gel electrolytes was studied by using the AC impedance method, differential scanning calorimetry, and pulse field gradient (PFG) NMR method. The gel electrolytes based on the typical crosslinked poly(ethylene oxide) (PEO) system were obtained from polyethylene glycol diacrylate in the presence of LiF and γ-butyrolactone. The gel electrolytes were obtained as a thin film form by the radical polymerization method. This electrolyte has an ionic conductivity of 4.0 + 10-3 Scm-1 at 20° and good temperature properties. The diffusion coefficient was determined by using PFG-NMR. Comparison of data between δobs which was determined from the AC impedance method and δnmr which was determined by using Nernst-Einstein equation from diffusion coeffs. was considered. DSC curves showed several exothermic peaks as the different state of the solvent. Macroscopic homogeneity of the gel was confirmed for the samples of different salt concns. The ionic conductivity, diffusion coefficient and DSC data indicated interaction between the polymer and lithium cations in the gel system with a high solvent content. The ionic conduction mechanism as related to the gel structure in the PEO-gel system is proposed, and the difference of the ion existence between gels and liquid electrolytes was discussed.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
ST battery gel electrolyte ionic conduction;
polyethylene oxide gel electrolyte ionic cond
IT Battery electrolytes
Diffusion
Ionic conductivity
(mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(mechanisms of ionic conduction related to the structure of the

gel electrolytes composed of crosslinked PEO matrix)

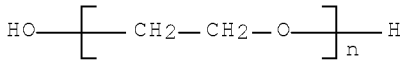
IT 25322-68-3, Peo 26570-48-9, Polyethylene glycol diacrylate
RL: DEV (Device component use); USES (Uses)
(mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix)

IT 96-48-0, γ-Butyrolactone 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix)

IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix)

RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, Lithium fluoride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(mechanisms of ionic conduction related to the structure of the gel electrolytes composed of crosslinked PEO matrix)

RN 7789-24-4 HCAPLUS

CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 66 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:206362 HCAPLUS Full-text

DN 128:284443

OREF 128:56273a,56276a

TI Electronic behavior of Li-GIC in the lithium secondary battery

AU Lee, Yuan-Haun; Chang, Wen-Ku; Fang, Chun-Hsiung; Huang, Yea-Fu; Wang, Andy A.

CS Grad. Inst. Mater. Sci. Eng., Natl. Taiwan Univ., Taipei, Taiwan

SO Materials Chemistry and Physics (1998), 53(3), 243-246
CODEN: MCHPDR; ISSN: 0254-0584

PB Elsevier Science S.A.

DT Journal

LA English

AB Composite materials which, when mixing graphite with montmorillonite and TEF oligomer, can replace lithium metal as the neg. electrode materials for the lithium secondary batteries have been studied. The anode composite materials were fabricated by mixing graphite with different components of

montmorillonite and TFE oligomer, even lithium fluoride. The microstructure of the anodic composite materials were characterized by x-ray diffraction and its data was refined with the Rietveld anal. The elec. properties of the composite materials were characterized by electrochem. impedance spectroscopy (EIS). The electrochem. behaviors of the composite materials were investigated in a 1M LiPF6 solution with a 50:50 mixture of ethylene carbonate (EC) and diethylene carbonate (DEC). In our previous study, with increased graphitization of the graphite materials, the layer structure became more orderly and the discharge capacity higher; however, the electronic behavior of Li-GIC, as a composite material mixed with montmorillonite intercalated by TEF oligomer, became complicated in this case. From the cyclic voltammetry, with the increasing of potential sweeping rate, the anodic peak would shift to the higher potential and show a larger current. The relationship between the component of anode composite materials and its intercalation as the result of the electrochem. behaviors will be discussed.

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72

ST anode graphite montmorillonite TFE lithium battery

IT Battery anodes
Electric impedance
(electronic behavior of Li-GIC in the lithium secondary battery)

IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(electronic behavior of Li-GIC in the lithium secondary battery)

IT Secondary batteries
(lithium; electronic behavior of Li-GIC in the lithium secondary battery)

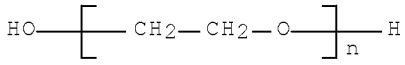
IT 96-49-1, 1,3-Dioxolan-2-one 7782-42-5, Graphite, uses 9002-84-0
21324-40-3, Phosphate(1-), hexafluoro-, lithium
RL: DEV (Device component use); USES (Uses)
(electronic behavior of Li-GIC in the lithium secondary battery)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 67 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1997:597214 HCAPLUS Full-text
DN 127:280702
OREF 127:54779a,54782a
TI Advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes
AU Peled, E.; Golodnitsky, D.; Ardel, G.
CS School of Chemistry, Tel Aviv University, Tel Aviv-Jaffa, 69978, Israel
SO Journal of the Electrochemical Society (1997), 144(8), L208-L210
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB Recent studies show that the SEI on lithium and on LixC6 anodes in liquid nonaq. solns. consists of many different materials including Li2O, LiF, LiCl, Li2CO3, LiCO2-R, alkoxides, and nonconducting polymers. The equivalent circuit for such a mosaic-type SEI electrode is extremely complex. It is shown that near room temperature the grain-boundary resistance (Rgb) for polyparticle solid electrolytes is larger than the bulk ionic resistance. Up to now, all models of SEI electrodes ignored the contribution of Rgb to the overall SEI resistance. We show here that this neglect has no justification. On the basis of recent results, we propose here for SEI electrodes equivalent circuits which take into account the contribution of grain-boundary and other

interfacial impedance terms. This model accounts for a variety of different types of Nyquist plots reported for lithium and LixC6 electrodes in liquid nonaq. and polymer electrolytes .

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST model battery electrolyte interphase electrode
IT Battery electrodes
Battery electrolytes
(advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(electrolyte; advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
IT 7439-93-2, Lithium, uses 39448-96-9, Graphite-lithium
RL: DEV (Device component use); USES (Uses)
(advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
IT 1344-28-1, Alumina, uses
RL: MOA (Modifier or additive use); USES (Uses)
(electrolyte containing; advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(electrolyte; advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
IT 25322-68-3, Peo
RL: DEV (Device component use); USES (Uses)
(electrolyte; advanced model for solid electrolyte interphase electrodes in liquid and polymer electrolytes)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 68 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1997:155147 HCAPLUS Full-text
DN 126:159786
OREF 126:30865a,30868a
TI Secondary nonaqueous batteries using electrodes with protective coatings
IN Miyaki, Yukio; Kabutomori, Masuo; Inoue, Noriyuki; Ishizuka, Hiroshi; Aono, Toshiaki; Kato, Mikihiko; Tomiyama, Hideki
PA Fuji Photo Film Co., Ltd., Japan
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	WO 9701870	A1	19970116	WO 1996-JP1788	19960627 <--
	W: AU, CA, CN, JP, KR, SG, US, VN				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9662424	A	19970130	AU 1996-62424	19960627 <--
	EP 836238	A1	19980415	EP 1996-921109	19960627 <--
	EP 836238	B1	20051116		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1189247	A	19980729	CN 1996-195102	19960627 <--
	CN 1133221	C	20031231		
	AT 310321	T	20051215	AT 1996-921109	19960627 <--
	US 6365299	B1	20020402	US 1997-981011	19971224 <--
	US 20020114993	A1	20020822	US 2002-46708	20020117 <--
	US 7105251	B2	20060912		
	JP 2008103344	A	20080501	JP 2007-286190	20071102 <--
	JP 2008103345	A	20080501	JP 2007-286191	20071102 <--
PRAI	JP 1995-183233	A	19950628 <--		
	JP 1995-174861	A	19950711 <--		
	JP 1995-189190	A	19950725 <--		
	JP 1996-27658	A	19960215 <--		
	JP 1997-504314	A3	19960627 <--		
	WO 1996-JP1788	W	19960627 <--		
	US 1997-981011	A1	19971224 <--		
	US 2002-981011	A1	20020117 <--		

AB Secondary Li batteries use cathodes and/or anodes having ≥1 protective coating layers. The protective coating may contain water insol. particles and a binder, may contain inorg. and/or organic particles, and may or may not be conductive. These batteries have high voltage, capacity, and safety.

IC ICM H01M0004-02
ICS H01M0010-40; H01M0004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST safety lithium battery electrode protective coating

IT Battery electrodes
(compns. of protective coatings for electrodes in secondary lithium batteries)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(compns. of protective coatings for electrodes in secondary lithium batteries)

IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(cathodes with protective coatings for batteries)

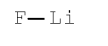
IT 1314-23-4, Zirconia, uses 1344-28-1, Aluminum oxide (Al2O3), uses 7440-02-0, Nickel, uses 7782-42-5, Graphite, uses 7789-24-4, Lithium fluoride, uses 9002-88-4, Chemipearl W 700 9004-32-4 24937-79-9, Poly(vinylidene fluoride)
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(compns. of protective coatings for electrodes in secondary lithium batteries)

IT 179802-05-2P 182203-62-9P, Magnesium tin oxide silicate (Mg0.2SnO0.4(SiO3)0.8) 182203-65-2P, Aluminum magnesium tin oxide silicate (Al0.2Mg0.2SnO0.3(SiO4)0.6) 182319-19-3P, Magnesium tin borate oxide silicate (Mg0.2Sn(BO3)0.2O0.3(SiO3)0.6) 182319-27-3P, Magnesium tin borate phosphate silicate (Mg0.3Sn(BO3)0.1(PO4)0.1(SiO4)0.5) 182319-28-4P 186892-46-6P 186892-47-7P
RL: DEV (Device component use); IMF (Industrial manufacture); PEP

(Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)
(lithium intercalating anodes with protective coatings for batteries)

IT 7789-24-4, Lithium fluoride, uses
24937-79-9, Poly(vinylidene fluoride)
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(compns. of protective coatings for electrodes in secondary lithium batteries)

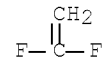
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



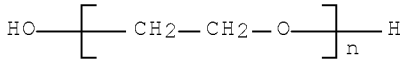
L82 ANSWER 69 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:102519 HCAPLUS Full-text
DN 124:119674
OREF 124:22257a,22260a
TI Aromatic polyamide-based ion-conductive films and precursor film therefor
IN Muraoka, Shigemitsu; Hamada, Masami
PA Asahi Kasei Kogyo K K, Japan
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9531499	A1	19951123	WO 1995-JP958	19950518	<--
	W: JP, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	EP 760383	A1	19970305	EP 1995-918745	19950518	<--
	EP 760383	B1	20020807			
	R: DE, FR, GB, NL					
	US 5834112	A	19981110	US 1997-737159	19970226	<--
PRAI	JP 1994-103631	A	19940518	<--		
	JP 1994-119768	A	19940601	<--		
	WO 1995-JP958	W	19950518	<--		

AB The title films, with good heat resistance and mech. strength, useful as solid electrolytes for secondary alkaline batteries, etc., comprise 20-70% aromatic polyamides (e.g., p-phenylenediamine-terephthalic acid copolymer),

electrolytes (e.g., LiCl, NaOH, LiNO3, LiBF4), and solvents (e.g., polyethylene oxide, water, propylene carbonate-ethylene carbonate-γ-butyrolactone mixture) and optionally laminated with electrolyte-containing polymer layers (e.g., of polycarbonates).

IC ICM C08J0005-18
ICS C08L0077-10; B32B0027-34; H01B0001-20
ICA H01M0006-18
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
ST arom polyamide film battery separator; electrolyte arom polyamide battery separator; lithium chloride arom polyamide film; sodium hydroxide arom polyamide film; nitrate lithium arom polyamide film; boron lithium fluoride arom polyamide film; heat resistance arom polyamide film; ion conductive arom polyamide film; polycarbonate arom polyamide laminate
IT Batteries, secondary
Electric conductors
Electrolytes
(aromatic polyamide-based ion-conductive films and precursor film therefor)
IT Alkali metal compounds
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(electrolytes; aromatic polyamide-based ion-conductive films and precursor film therefor)
IT Polyamides, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(aromatic, aromatic polyamide-based ion-conductive films and precursor film therefor)
IT 24938-64-5, p-Phenylenediamine-terephthalic acid copolymer, SRU
25035-37-4, p-Phenylenediamine-terephthalic acid copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(aromatic polyamide-based ion-conductive films and precursor film therefor)
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 7732-18-5, Water, uses 25322-68-3, Polyethylene oxide
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; aromatic polyamide-based ion-conductive films and precursor film therefor)
IT 25322-68-3, Polyethylene oxide
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; aromatic polyamide-based ion-conductive films and precursor film therefor)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 70 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:990758 HCAPLUS Full-text
DN 124:12321
OREF 124:2433a,2436a

TI Anticorrosive ionically conducting materials, their manufacture, and their use as electrolyte in lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and in electrochromic devices

IN Michot, Christophe; Armand, Michel; Sanchez, Jean-Yves; Choquette, Yves; Gauthier, Michel

PA Centre National de la Recherche Scientifique, Fr.; Hydro-Quebec

SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9526056	A1	19950928	WO 1995-FR343	19950321 <--
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	FR 2717620	A1	19950922	FR 1994-3276	19940321 <--
	FR 2717612	A1	19950922	FR 1994-3277	19940321 <--
	FR 2717612	B1	19960531		
	CA 2163336	A1	19950928	CA 1995-2163336	19950321 <--
	CA 2163336	C	20060509		
	EP 699349	A1	19960306	EP 1995-914390	19950321 <--
	EP 699349	B1	20071010		
	R: DE, FR, GB, IT				
	JP 08511274	T	19961126	JP 1995-524436	19950321 <--
	JP 3878206	B2	20070207		
	US 5916475	A	19990629	US 1995-537944	19951121 <--
	US 6254797	B1	20010703	US 1999-274883	19990323 <--
	US 20010025943	A1	20011004	US 2001-837274	20010419 <--
	US 6682855	B2	20040127		
	JP 2006210331	A	20060810	JP 2005-368382	20051221 <--
PRAI	FR 1994-3276	A	19940321 <--		
	FR 1994-3277	A	19940321 <--		
	JP 1995-524436	A3	19950321 <--		
	WO 1995-FR343	W	19950321 <--		
	US 1995-537944	A1	19951121 <--		
	US 1999-274883	A3	19990323 <--		

OS MARPAT 124:12321

AB The material includes ≥1 solns. of ≥1 ionic compds. in an aprotic solvent, which compound is selected from compds. (1/mM)+[(ZY)2N]-, (1/mM)+[(ZY)3C]-, (1/mM)+[(ZY)2CQ]- (Y = SO2 or POZ; Q is H, COZ or Z; independently, Z = F or optionally perfluorinated organic group, optionally having ≥1 polymerizable functions, one of the substituents being F; M = proton or cation). The material is used in batteries, supercapacitors, as p- or n-type dopant in electronically conductive polymers, and in electrochromic devices. (FSO2)2NH (obtained by distilling HSO3F in presence of urea) was dissolved in anhydrous acetonitrile and the solution mixed with LiF to give Li bis(fluorosulfonyl)imide.

IC ICM H01M0010-40
ICS H01M0006-18; C01B0021-093; C07C0317-04; C23F0011-16; C07C0311-48

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST lithium bisfluorosulfonyl imide electrolyte; anticorrosive electrolyte lithium battery; supercapacitor anticorrosive electrolyte; electron conducting polymer dopant electrolyte; electrochromic app anticorrosive electrolyte

IT Batteries, secondary
Electrolytes

Electron exchangers
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT Phosphazene polymers
Polymers, uses
Urethane polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT Optical imaging devices
(electrochromic, anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT Electric capacitors
(electrolytic, anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT 171611-11-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT 14984-73-7P, Imidodisulfuryl fluoride
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT 57-13-6, Urea, processes 7681-49-4, Sodium fluoride, processes 7789-21-1, Fluosulfonic acid
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

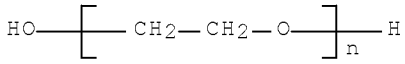
IT 75-21-8D, Oxirane, copolymers 75-56-9D, copolymers 106-92-3 25322-68-3
RL: TEM (Technical or engineered material use); USES (Uses)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT 75-05-8, Acetonitrile, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)

IT 7681-49-4, Sodium fluoride, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of

electronically conductive polymers, and electrochromic devices)
RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

IT 25322-68-3
RL: TEM (Technical or engineered material use); USES (Uses) (anticorrosive electrolyte manufacture for lithium batteries and supercapacitors, for p- or n-type doping of electronically conductive polymers, and electrochromic devices)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



L82 ANSWER 71 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1994:494312 HCAPLUS Full-text
DN 121:94312
OREF 121:16739a,16742a
TI XPS analysis for the lithium surface immersed in nonaqueous solvents and modification of lithium surface using organic thin film prepared by plasma process
AU Takehara, Zen-ichiro; Ogumi, Zempachi; Kanamura, Kiyoshi; Uchimoto, Yoshiharu
CS Grad. Sch. Eng., Kyoto Univ., Sakyo, 606-01, Japan
SO Proceedings - Electrochemical Society (1994), 94-4(LITHIUM BATTERIES), 13-24
CODEN: PESODO; ISSN: 0161-6374
DT Journal
LA English
AB The lithium surface immersed in various electrolytes for 10 min or 3 days was analyzed by XPS. The lithium surface before the immersion in the electrolyte was covered with the native film which consists of Li2CO3, Li2O, and LiOH. During the immersion of lithium in the electrolytes, the native film reacted with the electrolyte to form LiF and organic compound The surface of lithium immersed in propylene carbonate or γ-butyrolactone containing 1.0 mol dm-3 LiPF6 for 3 days was covered with the dense and thin LiF layer. The morphol. of lithium deposited on the lithium surface immersed in these electrolytes for 3 days was not dendritic. But, in other cases, lithium surface was covered with porous lithium compds. layer and the morphol. of lithium deposited on such a lithium surface was dendritic. The modification of the lithium surface was conducted using the artificial solid electrolyte polymer formed on the clean lithium surface. The morphol. of lithium deposited in propylene carbonate containing 1.0 mol dm-3 LiClO4 was different from the dendrite type. From these expts., the thin and uniform solid electrolyte on the lithium surface results in the suppression for the formation of lithium dendrite.
CC 72-2 (Electrochemistry)
Section cross-reference(s): 52, 66, 75

ST lithium anode nonaq solvent XPS morphol; crystal dendrite formation lithium; org polymer lithium anode battery

IT Crystal dendrites
(formation of, in lithium electrodeposition in nonaq. solvents)

IT Interfacial structure
(of lithium anode in nonaq. solvent)

IT Electrodeposition and Electroplating
(of lithium on lithium in nonaq. solvents, morphol. in relation to)

IT Anodes
(battery, lithium, XPS anal. and morphol. of)

IT 7439-93-2, Lithium, uses
RL: USES (Uses)
(anode, in nonaq. solvents, XPS and morphol. of)

IT 7789-24-4P, Lithium fluoride, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, on lithium anode in nonaq. solvent containing lithium hexafluorophosphate)

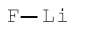
IT 24937-79-9, 1,1-Difluoroethene homopolymer
RL: PRP (Properties)
(lithium surface modified by, for battery)

IT 14283-07-9, Lithium tetrafluoroborate(1-) 21324-40-3, Lithium hexafluorophosphate(1-)
RL: PRP (Properties)
(morphol. and XPS of lithium anode in nonaq. solvent containing)

IT 7789-24-4P, Lithium fluoride, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, on lithium anode in nonaq. solvent containing lithium hexafluorophosphate)

RN 7789-24-4 HCAPLUS

CN Lithium fluoride (LiF) (CA INDEX NAME)



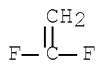
IT 24937-79-9, 1,1-Difluoroethene homopolymer
RL: PRP (Properties)
(lithium surface modified by, for battery)

RN 24937-79-9 HCAPLUS

CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



L82 ANSWER 72 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1984:560088 HCAPLUS Full-text

DN 101:160088

OREF 101:24103a,24106a

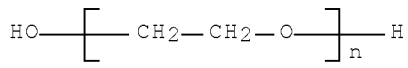
TI Solid-electrolyte battery
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 59071263	A	19840421	JP 1982-181368	19821018 <--
PRAI JP 1982-181368		19821018 <--		

AB A solid-electrolyte battery consists of the following: (1) an anode layer from Li, or an alloy (or compound) which supplys Li ions; (2) a solid electrolyte containing PMMA, a Li salt(s) of LiClO4, LiF, LiCl, LiBr, LiAlCl4, LiBF4, and/or LiPF6, and poly(acetylene glycol) (and/or poly(propylene oxide)); and (3) a cathode containing ≥1 compound(s) of TiS2, FeS2, VS2, MoS2, NiPS3, FePSe3, CoO2 and a small amount of Li, V2O5, MoO3, WO3, Bi2O3, Cu2S, MoS3, PbI2, BiI3, and/or SbI3 as an active material(s). Optionally, the anode or cathode may be coated with a composition containing a MIBK solvent and electrolyte material(s) to form the solid electrolyte. The solid electrolyte has a low resistance.

IC H01M0006-18
ICA H01B0001-06
CC 72-3 (Electrochemistry)
ST solid electrolyte lithium battery; metal sulfide electrolyte lithium battery; chalcogenide metal electrolyte lithium battery; iodide metal electrolyte lithium battery
IT Batteries, primary
(solid-electrolyte)
IT Cathodes
(battery, chalcogenides)
IT Lithium alloy, base
RL: PRP (Properties)
(anode, in solid-electrolyte battery)
IT 7439-93-2, uses and miscellaneous
RL: USES (Uses)
(anode, in solid-electrolyte battery)
IT 1317-33-5, uses and miscellaneous 12017-00-4 12039-13-3 12068-85-8 12166-28-8 20642-13-1 52226-00-3
RL: DEV (Device component use); USES (Uses)
(cathode containing, for lithium solid-electrolyte battery)
IT 1304-76-3, uses and miscellaneous 1313-27-5, uses and miscellaneous 1314-35-8, uses and miscellaneous 1314-62-1, uses and miscellaneous
RL: USES (Uses)
(chalcogenide cathode containing, for lithium battery)
IT 7787-64-6 7790-44-5 10101-63-0 12033-29-3 22205-45-4
RL: PRP (Properties)
(chalcogenide cathode containing, for lithium battery)
IT 25322-68-3 25322-69-4
RL: PRP (Properties)
(electrolyte film containing PMMA and lithium salt and, for lithium battery)
IT 9011-14-7
RL: PRP (Properties)
(electrolyte film containing, for lithium battery)
IT 7447-41-8, uses and miscellaneous 7550-35-8 7789-24-4, uses and miscellaneous
RL: USES (Uses)

(solid electrolyte film containing PMMA and, for lithium battery)
IT 7791-03-9 14024-11-4 14283-07-9 21324-40-3
RL: PRP (Properties)
(solid electrolyte film containing PMMA and, for lithium battery)
IT 25322-68-3
RL: PRP (Properties)
(electrolyte film containing PMMA and lithium salt and, for lithium battery)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (CA INDEX NAME)



IT 7789-24-4, uses and miscellaneous
RL: USES (Uses)
(solid electrolyte film containing PMMA and, for lithium battery)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

L82 ANSWER 73 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1984:220087 HCAPLUS Full-text
DN 100:220087
OREF 100:33271a,33274a
TI Ionic conductor
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59003809	A	19840110	JP 1982-110863	19820629 <--
	US 4537826	A	19850827	US 1983-502322	19830608 <--
	EP 98416	B1	19920812	EP 1983-105817	19830614 <--
	R: CH, DE, FR, GB, LI, NL				
PRAI	JP 1982-110863	A	19820629 <--		
	JP 1982-110864	A	19820629 <--		
	JP 1982-204520	A	19821124 <--		

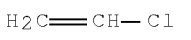
AB The ionic conductor with improved elec. conductivity which can be used for electrochromic devices and batteries consists of light-transmitting high polymer resin, organic solvent, and inorg. ionic conducting material. The organic polymer can be polystyrene, polyvinyl chloride, vinyl chloride-vinyl acetate copolymer or resins such as epoxy or acrylic resins. The inorg. conductor may be LiF, LiI, LiOH, LiClO4, NaF or NaI, and the organic solvent

can be Me Et ketone, Me isobutyl ketone, toluene, ethylcellulose diacetate, etc.

IC H01B0001-20
CC 76-2 (Electric Phenomena)
IT Acrylic polymers, uses and miscellaneous
Epoxy resins, uses and miscellaneous
Phenolic resins, uses and miscellaneous
Rubber, butyl, uses and miscellaneous
RL: USES (Uses)
(in ionic conductors containing alkali metal halide with transparent polymers)
IT Electric conductors
(ionic, containing alkali metal halide conducting materials in transparent polymers)
IT 9002-86-2 9003-20-7 9003-22-9 9003-53-6
RL: USES (Uses)
(in ionic conductors containing alkali metal halide with transparent polymers)
IT 1310-65-2 1310-73-2, uses and miscellaneous 7601-89-0
7681-49-4, uses and miscellaneous 7681-82-5, uses and miscellaneous 7789-24-4, uses and miscellaneous 7791-03-9
10377-51-2
RL: USES (Uses)
(in transparent polymer material for ionic conductors)
IT 9010-85-9
RL: USES (Uses)
(rubber, butyl; in ionic conductors containing alkali metal halide with transparent polymers)
IT 9002-86-2
RL: USES (Uses)
(in ionic conductors containing alkali metal halide with transparent polymers)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl



IT 7681-49-4, uses and miscellaneous 7789-24-4, uses and miscellaneous
RL: USES (Uses)
(in transparent polymer material for ionic conductors)
RN 7681-49-4 HCAPLUS
CN Sodium fluoride (NaF) (CA INDEX NAME)

RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

F—Li

L82 ANSWER 74 OF 74 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1983:602409 HCAPLUS Full-text
DN 99:202409
OREF 99:31037a,31040a
TI Lithium solid electrolyte battery
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 58075779	A	19830507	JP 1981-172927	19811030 <--
PRAI JP 1981-172927		19811030 <--		

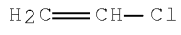
AB A thin Li solid electrolyte battery comprises a Li anode, a thin film solid electrolyte layer obtained by incorporating ≥1 selected from LiClO4, LiF, LiCl, Li2CrO4, LiAlCl4, LiBF4, and LiPF6 1-50 mol% to a resin selected from poly(vinylidene fluoride), vinylidene fluoride-CHClCCl2 polymer, vinylidene fluoride-CHFCF2 polymer, vinylidene fluoride-C2F4 polymer, polyacrylonitrile, poly(Me methacrylate), poly(vinyl chloride), poly(vinyl acetate), and poly(vinylpyrrolidone), and a cathode containing as active material ≥1 compds. selected from TiS2, FeS2, VS2, MoS2, NiPS3, FePSe3, CoO2 containing small amts. of Li, V2O5, MoO3, WO3, Bi2O5, Cu2S, MoS3, PbI2, BiI3, and SbI3. The low cost battery has a stable open-circuit voltage over a long period of time.
IC H01M0006-18
CC 72-3 (Electrochemistry)
Section cross-reference(s): 52
ST lithium solid electrolyte battery
IT Batteries, primary
(lithium, solid-electrolyte)
IT 7439-93-2, uses and miscellaneous
RL: USES (Uses)
(anodes, in solid-electrolyte batteries)
IT 1304-76-3, uses and miscellaneous 1313-27-5, uses and miscellaneous
1314-35-8, uses and miscellaneous 1314-62-1, uses and miscellaneous
1317-33-5, uses and miscellaneous 1317-40-4 7787-64-6 7790-44-5
10101-63-0 12033-29-3 12039-13-3 12068-85-8 12166-28-8
20642-13-1 21906-52-5
RL: DEV (Device component use); USES (Uses)
(cathodes containing, for lithium batteries)
IT 12017-00-4
RL: PRP (Properties)
(cathodes, containing lithium, for lithium batteries)
IT 7447-41-8, uses and miscellaneous 7789-24-4, uses and miscellaneous
RL: USES (Uses)
(electrolyte, lithium solid-electrolyte batteries)
IT 553-91-3 7791-03-9 14024-11-4 14283-07-9 21324-40-3
RL: PRP (Properties)
(electrolyte, lithium solid-electrolyte batteries)

IT 9002-86-2 9003-20-7 9003-39-8 9011-14-7 24937-79-9
25014-41-9 25684-76-8 28960-88-5 87465-25-6
RL: PRP (Properties)
(solid electrolyte containing, for lithium batteries)
IT 7789-24-4, uses and miscellaneous
RL: USES (Uses)
(electrolyte, lithium solid-electrolyte
batteries)
RN 7789-24-4 HCAPLUS
CN Lithium fluoride (LiF) (CA INDEX NAME)

IT 9002-86-2 24937-79-9 25014-41-9
RL: PRP (Properties)
(solid electrolyte containing, for lithium batteries)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

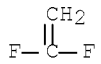
CRN 75-01-4
CMF C2 H3 Cl



RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (CA INDEX NAME)

CM 1

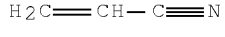
CRN 75-38-7
CMF C2 H2 F2



RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



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L2             5 S E3
               E SMITH N/AU
L3           158 S E3,E44,E45
               E SMITH NOVIS/AU
L4            16 S E3-E5
               E SMITH W/AU
L5           320 S E3
               E SMITH W N/AU
L6            67 S E3,E7,E8
L7           152 S E291,E399,E400,E402,E403
               E SMITH WM/AU
L8            32 S E3,E23
               E KEJHA/AU
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               E LITHCHEM/CO
L10            4 S E4,E5/CO,PA,CS
               SEL RN L1

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               E SODIUM FLUORIDE/CN
L13            1 S E3
               E MAGNESIUM FLUORIDE/CN
L14            1 S E3
L15           12 S L11 NOT L12-L14
L16            5 S L15 AND PMS/CI
L17            1 S L16 AND 2/NC
L18          745 S 116-15-4/CRN AND 75-38-7/CRN
L19            5 S L18 AND 2/NC
L20            5 S L17,L19
L21            4 S L16 NOT L20

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L23        25410 S L13
L24        10667 S L14
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               E E8+ALL
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               E BATTERIES/CT
               E E3+ALL
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L35           38 S L34 AND L20
L36          122 S L34 AND L21
L37          140 S L34 AND POLYMER?/CW,CT
L38            1 S L34 AND (PVDF OR POLYVINYLIDENE FLUORIDE OR VINYLIDENE DIFLUO
L39           58 S L34 AND (PVDF OR POLYVINYLIDENE FLUORIDE OR VINYLIDENE DIFLUO
L40           18 S L34 AND POLYAMID?/CW,CT
L41           22 S L34 AND (PVC OR POLYVINYLCHLORIDE OR POLYVINYL CHLORIDE OR PO
L42           32 S L34 AND (POLYACRYLONITRILE OR POLY ACRYLONITRILE OR POLYACRYL
L43           48 S L34 AND (PEO OR POE OR POLYETHYLENEGLYCOL OR POLYETHYLENEXOID
L44           76 S L34 AND (POLYOXYALKYLENE OR POLY OXYALKYLENE OR POLYOXY ALKYL
L45          107 S L34 AND FLUOROPOLYMER?/CW,CT
L46           73 S L34 AND POLYOXYALKYLENE?/CW,CT
L47          275 S L35-L46
L48           25 S L47 AND PY<=2002 NOT P/DT
L49           86 S L47 AND (PD<=20021030 OR PRD<=20021030 OR AD<=20021030) AND P
L50          111 S L48,L49
L51            3 S L1-L10 AND L47
L52            6 S L1-L10 AND L28
L53            3 S L1-L10 AND L34
L54            6 S L51-L53
L55            3 S L54 NOT (15 OR 49)/SC
L56           28 S L34 AND HEXAFLUOROPROPYLENE(S)(VINYLIDENE FLUORIDE OR VINYLID
L57            0 S L56 AND PY<=2002 NOT P/DT
L58           18 S L56 AND (PD<=20021030 OR PRD<=20021030 OR AD<=20021030) AND P
L59          111 S L50,L58
L60            3 S L55 AND L59,L55,L56
L61          109 S L59 NOT L60
L62           13 S L61 NOT ELECTR?/SC,SX
L63           96 S L61 NOT L62
L64            7 S L63 AND GEL
L65           64 S L63 AND ?ELECTROLYT?
L66           10 S L63 AND SEPARATOR
L67           70 S L60,L64-L66
L68           29 S L63 NOT L67
                 SEL AN DN 1-3 8 9 12 13 17 19-21 23 26-28
L69           14 S L68 NOT E1-E45
L70            9 S L67 NOT BATTERY
L71           61 S L67 NOT L70
L72           75 S L69,L71
L73           75 S L55,L72
L74           75 S L73 AND L1-L10,L22-L73
L75           19 S L74 AND HEXAFLUOROPROPYLENE(S)(VINYLIDENE FLUORIDE OR VINYLID
L76           69 S L74 AND ?POLYM?
L77            6 S L74 NOT L75,L76
L78            2 S L77 AND POLYETHYLENE GLYCOL
L79            4 S L77 NOT L78
L80            3 S L79 NOT 140:238481/DN
L81           74 S L76,L78,L80
L82           74 S L81 AND (GEL OR SEPARATOR OR ?ELECTROLYT? OR MATRIX OR ?SOLVE

     FILE 'HCAPLUS' ENTERED AT 07:19:23 ON 28 OCT 2008

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